8º Volume

2001

TRIBUNAL MARÍTIMO

Ação Cível
Processo 19489/01 - P 36
ESTABILIDADE - AVARIA

MTLAÇÃO

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

2.356

CERTIDÃO

CERTIFICO que, nesta data foi juntado o 8º Volume
com 200 anexos e 36 do processo 1947/91 OJ.
P - 36

O referido é verdade e dou fé.

Aos 10 de Abril de 2007.

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JOSÉ CARLOS PIMENTEL QUEIRÓZ
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7530 BR 218 1030

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JOSÉ CARLOS PINHEIRO OLIVEIRA
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

AMEC Process and Energy

NOBLE DENTON

P36 - RONCADOR FIELD DEVELOPMENT
Contract No: 7/15/2151

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Document Title:

OPERATIONS MANUAL
Volume 7 - Stability Book

Issue Rev	Issue or Revision Description	Orig. By	Date	Ch'kd By	Date	App'd By	Date	App'd By	Date
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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS



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REVISION CHANGE NOTICES

Rev.	Location Changes	Brief Description of Change
A	7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.11, 7.14	Loading Conditions updated with Inclined lightship weight & COG
	7.7	Allowable VCG Curve updated with load condition VCGs added.
	7.9	Detailed Hydrostatics included
	7.12, 7.13, 7.15	Revised Reports Included.

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JOSÉ CARLOS PIMENTEL GUIMARÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

TRIBUNAL MARÍTIMO

7 STABILITY BOOK

This section contains the important technical data for ensuring the unit's stability margin remains safe during all operations.

This manual should be read and used by a qualified and experienced Stability Officer. All operations should be properly planned and approved by the Unit's Master prior to commencement.

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7.1 LOADING CASES FOR TRANSIT, OPERATING, SURVIVAL & INSPECTION CONDITIONS

Loading Conditions attached:

Description	Draft	Comments
Maximum Operating Draft	22.0m	300 Tonnes misc. deck load
Fairlead Inspection Draft	18.0m	300 Tonnes misc. deck load
Transit to Field Condition	11.0m	300 Tonnes misc. deck load

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JOSÉ CARLOS PUMAR DEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7.2 BALLASTING FROM DRAFT = 11.0M "TRANSIT CONDITION" TO DRAFT 18.0M "TRANSIT SURVIVAL CONDITION"

Loading Conditions attached:

Description	Draft	Comments
Stage 1 – Standard Transit Condition	11.00m	
Stage 2	11.74m	
Stage 3	12.10m	
Stage 4	12.80m	
Stage 5	15.90m	
Stage 6	18.00m	

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7.3 BALLASTING FROM DRAFT = 11.0M "ON SITE TRANSIT CONDITION" TO DRAFT = 18.0M "PRE-MOORING INSTALLATION CONDITION"

DIVISÃO JUDICIÁRIA
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Loading Conditions attached:

Description	Draft	Comments
Stage 1 – Standard Transit Condition	11.00m	
Stage 2	11.74m	
Stage 3	12.10m	
Stage 4	12.80m	
Stage 5	15.90m	
Stage 6	18.00m	

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JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7.4 BALLASTING FROM DRAFT = 18.0M "PRE-MOORING INSTALLATION CONDITION" TO DRAFT = 22.0M "POST MOORING INSTALLATION"

Subject to Mooring Installation Procedures to be defined by Installation Contractor

Loading Conditions attached:

Description	Draft	Comments
Pre-Mooring Condition	18.0m	
Four Lines Connected & Tensioned	18.0m	
Eight Lines Connected & Tensioned	18.0m	
Twelve Lines Connected & Tensioned	18.0m	
Sixteen Lines Connected & Tensioned	18.0m	
Ballast Down to Operating Draft	22.0m	

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7.5 BALLASTING FOR RISER INSTALLATION CONDITIONS

Subject to Riser Installation Procedures and Riser Pull-in Sequence

Loading Conditions attached:

Description	Draft	Comments
2 SCR & all Port Risers Attached	22.00m	These Conditions are worst cases - all individual conditions should be assessed by the Stability Officer
2 SCR & all Port & Aft Risers Attached	22.00m	
2 SCR & all Port, Aft & Stbd Risers Attached	22.00m	
2 SCR & all Risers Attached	22.00m	

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7.6 BALLASTING FROM DRAFT = 22.0M "OPERATING CONDITION" TO DRAFT = 18.0M "INSPECTION CONDITION"

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Loading Conditions attached:

Description	Draft	Comments
Stage 1	22.00m	
Stage 2	21.00m	
Stage 3	20.00m	
Stage 4	19.00m	
Stage 5	18.00m	

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

7.7 MAXIMUM ALLOWABLE V.C.G.

Attached:

Allowable VCG Curve for the Petrobras 36.

Notes:

1. Operation outside the range 11.0m to 22.0m has not been approved by the Classification Society.
2. The Unit may remain at one of three drafts, 22.0m, 18.0m & 11.0m. All other drafts have been considered as temporary transition drafts only. The unit must not remain at temporary drafts without a Stability Analysis Approved by the Classification Society.
3. Allowable VCG at transition drafts is based upon the IMO criteria of GM > 0.3m.

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7.8 CAPACITY PLANS

The following drawings are included:

GA of Pontoon Tanks & Spaces	DE-3010.38-1320-962-NBD-367-01
GA of Pontoon Tanks & Spaces elevation	DE-3010.38-1320-962-NBD-367-02
GA of Pontoon Tanks & Spaces elevation	DE-3010.38-1320-962-NBD-367-03
GA of Pontoon Tanks & Spaces Columns	DE-3010.38-1320-962-NBD-367-04
Central Caisson Tank Layout	DE-3010.38-1320-962-NBD-367-05
Tank Capacity Tables	DE-3010.38-1320-962-NBD-367-06
Tank Capacity Tables	DE-3010.38-1320-962-NBD-367-07
GA of Double Bottom	DE-3010.38-1320-962-NBD-367-08
GA Tank Top to U/S Main Deck	DE-3010.38-1320-962-NBD-367-09
GA Main Deck & Above	DE-3010.38-1320-962-NBD-367-10
Storage & Laydown Main Deck	DE-3010.38-1320-962-NBD-367-11
Storage & Laydown Tank Top	DE-3010.38-1320-962-NBD-367-12
Storage & Laydown Second Deck	DE-3010.38-1320-962-NBD-367-13

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7.9 HYDROSTATIC DATA

Hydrostatic Data is attached for the range 10.0m to 25.0m along with the Hydrostatic Curves Plan

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7.10 CAPACITIES AND CENTRES OF GRAVITY

Tables for the following tanks are included:

LCG is from FP, TCG +ve to Stbd, VCG is from USK

Seawater Ballast Tanks	1 PORT	1 STBD
Seawater Ballast Tanks	2 PORT	2 STBD
Seawater Ballast Tanks	3 PORT	3 STBD
Seawater Ballast Tanks	4 PORT	4 STBD
Seawater Ballast Tanks	5 PORT	5 STBD
Seawater Ballast Tanks	6 PORT	6 STBD
Seawater Ballast Tanks	7 PORT	7 STBD
Seawater Ballast Tanks	11 PORT	11 STBD
Seawater Ballast Tanks	13 PORT	13 STBD
Seawater Ballast Tanks	16 PORT	16 STBD
Seawater Ballast Tanks	17 PORT	17 STBD
Seawater Ballast Tanks	18 PORT	18 STBD
Seawater Ballast Tanks	19 PORT	19 STBD
Seawater Ballast Tanks	20 PORT	20 STBD
Seawater Ballast Tanks	21 PORT	21 STBD
Seawater Ballast Tanks	22 PORT	22 STBD
Seawater Ballast Tanks	23 PORT	23 STBD
Seawater Ballast Tanks	24 PORT	24 STBD
Seawater Ballast Tanks	25 PORT	25 STBD
Seawater Ballast Tanks	26 PORT	26 STBD
Chain Locker Ballast Tanks	1 PORT	2 PORT
Chain Locker Ballast Tanks	3 STBD	4 STBD
Chain Locker Ballast Tanks	5 PORT	6 PORT
Chain Locker Ballast Tanks	7 STBD	8 STBD
Drill Water Tanks	8 PORT	8 STBD
Drill Water Tanks	9 PORT	9 STBD
Drill Water Tanks	14 PORT	14 STBD
Drill Water Tanks	15 PORT	15 STBD
Potable Water Tanks	1 PORT	1 STBD
Potable Water Day Tank		
Fuel Oil Tank	10 PORT	10 STBD
Fuel Oil Tank	12 PORT	12 STBD
Fuel Oil Overflow Tank	PORT	STBD
Diesel Oil Sludge Tank	N1 PORT	N1 STBD
Diesel Oil Settling Tank	N1 PORT	N4 STBD
Diesel Oil Day Tank	N2 PORT	N3 STBD
Diesel Oil Service Tank		
Drains Storage Tanks	N1 PORT	N1 STBD
Waste Oil Tanks	N1 PORT	N1 STBD
Bilge Holding Tanks	PORT	STBD

JUSTIÇA JUDICIÁRIA
PROCESSO Nº 2602
FOLHA Nº 12
JUDICIAL MARITIMO

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

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7.11 LOADING CASES FOR SEA CHEST MAINTENANCE

Loading Conditions attached:

Description	Draft	Comments
Maintenance of four Seachests on Port side	21.99m	No change to Ballast Arrangement required

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

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7.12 STABILITY ANALYSIS - RINA (1999)

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

7.13 MANUAL CALCULATION OF DISPLACEMENT, TRIM AND STABILITY

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JOSÉ CARLOS PINHEIRO GUERRA
DIRETOR
DIVISÃO DE SERVIÇOS PORTUÁRIOS

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7.14 OPERATIONS FOR DAMAGE CONTROL

Loading Conditions attached:

Description	Draft	Comments
Emergency Dump of Separator A into Port Drains Storage Tank	22.00m	Assume stbd drains tank is closed
Emergency Dump of Separator A into Port Drains Storage Tank - **Correction**	22.00m	
Emergency Dump of Separator A free flood port & stbd Drains Storage Tank	22.00m	
Emergency Dump of Separator A free flood port & stbd Drains Storage Tank - **Correction**	22.00m	
Emergency Dump of Separator A into Stbd Drains Storage Tank	22.00m	Assume port drains tank is closed
Emergency Dump of Separator A into Stbd Drains Storage Tank - **Correction**	22.00m	
Flooding of Column Tank VS 32 Stbd 3	22.16m	
Flooding of Column Tank VS 32 Stbd 3 - **Correction**	22.00m	
Flooding of SW Ballast Tank 21S	22.49m	
Flooding of SW Ballast Tank 21S - **Correction**	22.00m	
Flooding of SW Ballast Tank 22S	22.61m	
Flooding of SW Ballast Tank 22S - **Correction**	22.00m	
One Mooring Line Failure	22.63m	
One Mooring Line Failure - **Correction**	22.00m	

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JOSÉ CARLOS PINGUTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

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7.15 INCLINING TEST REPORT AND LIGHTSHIP DETERMINATION

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS



7.16 CROSS CURVES OF STABILITY

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JOSÉ CARLOS PINHEIRO CUNHA
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Petrobras 36 - Roncador Field Development
Operatons Manual - Volume 7
Loading Condition: **Transit Draft 11.0m**
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	21%	169	13,73	36,66	1,41	0,003	0,039
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	87%	494	26,94	-36,18	5,32	0,002	0,016
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,002	0,016
SW Ballast 11P	644,7	1,025	1%	7	51,06	-30,81	0,05	0,000	0,000
SW Ballast 11S	644,7	1,025	1%	7	51,06	30,81	0,05	0,000	0,000
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	1%	7	61,72	30,81	0,05	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	950,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	950,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	950,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	950,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				3274	19,48	2,53	5,39	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	3273,8	19,48	2,53	5,39	0,007	0,071
Displacement	**37083,4**	**57,18**	**-0,02**	**26,99**	**0,010**	**0,072**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	11,0 m
LCB (from FP)	57,18 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,36 m
LCF (from FP)	58,17 m
TCF (+ve stbd)	-0,02 m
MCHC	207,58 m
MCTC	270,10 m
TPC	33,56 T/cm

Draft, Heel & Trim
(Input from Stability Software)

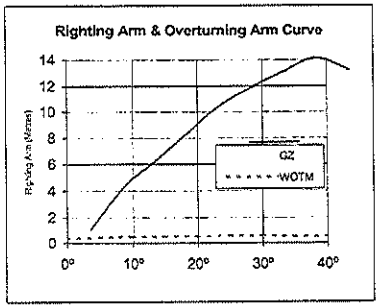
Draft Aft Perpendicular (INPUT)	11,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	11,000 m
Mean Draft @ Amidships	11,000 m
Mean Draft Forward	11,000 m

Statical Stability

Corrected VCG =	27,00 m	27,06 m
KMT / KML =	70,50 m	109,20 m
GMT / GML =	43,50 m	82,14 m

Stability Margin

Allowable VCG =	44,90 m
Stability Margin =	17,84 m



TRIBUNAL MARITIMO DIVISÃO

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,6	84,58	29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,6	84,58	29,99	25,80	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	31,05	-23,01	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	31,05	23,01	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	31,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	31,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	0,2	78,04	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,001	0,000
Fuel Oil	0			15,8	78,91	1,79	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,91	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,59	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,86	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSetti	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,07	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UQ-122306	0%	0,900	0,0	69,87	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UQ-122305	0%	0,900	0,0	69,98	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UQ-122304	0%	0,900	0,0	69,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,82	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-28,31	0,00	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	28,31	0,00	0,000	0,000
W.I.L.ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L.ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	80,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,06	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	34,38	-9,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	80,77	-1,05	26,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clrm p-tk	T65001A	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Fwd clrm p-tk	T65001B	0%	1,316	0,0	28,15	-26,23	27,00	0,000	0,000
Fwd clrm p-tk	T65001A	0%	1,316	0,0	28,15	26,23	27,00	0,000	0,000
Fwd clrm p-tk	T65001B	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-13,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,86	-26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-9,50	52,91	0,000	0,000
FW Cooling DuersionTank	T55102	100%	1,000	0,5	84,97	-9,20	52,01	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,060	0,0	56,23	-22,63	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	-8,43	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-1,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per-cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,20	-20,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,33	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,000	0,0	64,74	-18,71	19,61	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,66	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-082003	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-082501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-602502	0%	0,900	0,0	54,46	13,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-082501-01	0%	0,900	0,0	50,08	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	46,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	46,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,060	0,0	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,060	0,0	57,44	12,87	46,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,68	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	90,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifoaling Package	UQ-512101	0%	1,025	0,0	92,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	D-511102A/B/C	0%	1,025	0,0	56,29	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,800	0,0	60,40	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,83	-21,00	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	28,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,00	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122300	0%	0,650	0,0	79,28	31,85	48,88	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,88	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	48,88	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	6,90
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	6,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	6,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,28	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,84	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,84	18,57	6,32
P-1-14	E12,E13,E14	N	0,0	52,04	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-15	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 5"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 5"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,67	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,03	-16,29	6,00
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,39	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	49,77	-16,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	88,80	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	68,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	9,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,54	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	97,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,28	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	29,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,28	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	29,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,6	58,30	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	63,51	9,65	37,68
Pump Store Fwd	TT-02	10%	0,8	49,28	9,65	37,68
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,67	-23,66	37,68
Production Warehouse	TT-06	10%	5,1	89,01	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	62,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,68
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	76,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	66,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,0	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,65	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-9,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	32,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
Anchors (2 off)	0		36,0	30,31	0,00	12,20
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00

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Loading Condition: **Maximum Operating Condition**
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,40	0,80	5,42	0,007	0,055
Displacement	**56503,2**	**57,05**	**-0,02**	**22,11**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,03 m
MCTC	25,18 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

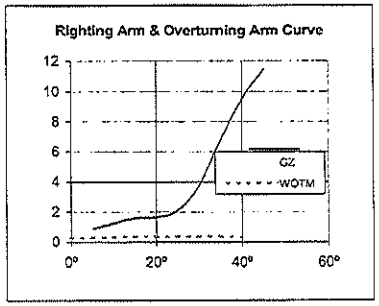
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,12 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,68 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m



D:\7b_pastat\715\INC_RES\STAB_CHK\OPERATE\LOADCASE X (S)ummary Condition

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

MA-3010.38-1320-915-NBD-909

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Operatons Manual - Volume 7
Loading Condition: Maximum Operating Condition

Summary Breakdown of Deadweight Loads

NO. DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1640,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	199,8	84,56	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	103,8	84,56	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,63	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,63	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,61	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,61	0,000	0,000
Fuel Oil	0			2393,9	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,0	57,61	-15,02	35,61	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,59	10,10	35,61	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	70,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,7	76,08	-3,95	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	51,04	30,07	40,86	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,8	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122308	100%	0,900	15,0	80,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UQ-122306	100%	0,900	15,0	89,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	100%	0,900	15,0	89,71	-0,45	49,23	0,000	0,000
Lub Oils	0			88,2	84,90	6,10	40,39	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	64,39	-12,56	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			83	80,99	-0,11	37,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	28,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-28,70	27,00	0,000	0,000
Hellfuel Refuel	A58001	100%	1,000	34,55	-12,53	43,92	0,000	0,000	0,000
Hellfuel Disp	A58002	100%	1,000	25,91	-19,20	45,10	0,000	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	21,63	28,76	43,94	0,000	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	2,0	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	80,77	0,00	29,80	0,000	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	55,23	21,53	37,06	0,000	0,000	0,000
Tank Top Sump Tank	V-53605	50%	1,000	76,22	6,44	46,47	0,000	0,000	0,000
Non Structural Tanks	0			301	56,82	9,28	42,04	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-28,51	47,27	0,002	0,005
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-16,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-16,71	19,61	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,50	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	0,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-0,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-662503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-662501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-662502	100%	0,900	19,2	54,48	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-662501-01	100%	0,900	16,5	50,88	17,00	37,52	0,000	0,000
Chemical Inj'tn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	46,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,000	13,3	97,13	16,03	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	97,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	82,86	30,50	45,90	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	83,67	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,04	22,65	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	29,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,800	104,3	90,48	-9,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	90,65	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	29,81	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	20,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,26	31,85	46,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,26	16,85	46,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,26	2,00	46,86	0,000	0,000
Industrial Water System Piping		100%	1,000	48,1	56,39	0,00	43,90	0,000	0,000
Process Content				1467,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y	163,5	24,34	-12,27	8,80
P-1-09	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y	166,0	41,26	19,57	6,22
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	48,64	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y	109,5	55,26	18,57	6,22
I-1-04	E17,E18	Y	108,8	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,04	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	108,8	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	61,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	108,0	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y	166,9	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y	166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,9	92,44	-14,25	29,25
Optical Cable	S32	Y	11,8	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,9	71,63	-36,29	6,00
Elecir. Cable	W3	Y	25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,58	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	0,00
Connected Risers	0		5051,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,36	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	86,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,0	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	19,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,46	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,46	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,46	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,46	13,72
Chain Onboard	0	5892	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,51	9,85	37,58
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,58
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,58
Mech Store 2	TT-04	30%	9,3	81,40	-32,16	37,58
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,99	31,44	37,88
Store	TT-09	5%	3,0	69,19	-0,33	37,58
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,80	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,9	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	75,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,64	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	85,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,8	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	39,65	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	33,58
Multipurpose Court	LD-11	60%	127,2	39,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	3,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Petrobras 36 - Roncador Field Development
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Loading Condition: **Fairlead Inspection Draft (18.0m)**
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	76%	680	6,78	30,71	4,77	0,006	0,017
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	62%	351	26,94	-36,18	3,79	0,001	0,012
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	1%	7	51,06	-30,81	0,05	0,000	0,000
SW Ballast 11S	644,7	1,025	1%	7	51,06	30,81	0,05	0,000	0,000
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	5%	30	61,72	30,81	0,24	0,004	0,012
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				4713	15,01	1,88	5,33	0,01	0,04

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,005	0,014
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	4713,4	15,01	1,88	5,33	0,012	0,041
Displacement	**50389,5**	**57,12**	**-0,02**	**24,12**	**0,017**	**0,056**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	22,43 m
MCTC	17,52 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

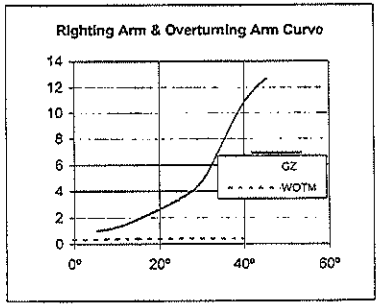
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	24,14 m	24,18 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	3,46 m	3,92 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	1,05 m



D:\[PERSONAL.XLS]Sheet1

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Petrobra Roncador Field Development
Operators Manual - Volume 7
Loading Condition: Fairlead Inspection Draft (18.0m)

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6S	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,05	38,10	0,000	0,000
Potable Water	0			402,7	84,38	0,19	28,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,900	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,900	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,900	589,5	51,72	-23,88	4,63	0,000	0,000
FO Tank	12S	100%	0,900	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,900	16,4	76,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,900	15,1	76,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,6	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	97,81	-16,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	103,3	74,62	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,05	39,64	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,3	79,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	79,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	33,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
Wt Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
Wt Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'D'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	8,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	76,49	-26,31	0,30	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	76,49	26,31	0,30	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Dessertor Tower (Port)	C-51001	100%	1,000	37,9	85,68	-23,73	27,60	0,000	0,000
Dessertor Tower (Stbrd)	C-52001	100%	1,000	37,9	85,68	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	84,39	-12,56	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	1,0	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	1,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			49,3	82,99	-0,11	27,75	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clnm p4k	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clnm p4k	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clnm p4k	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clnm p4k	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	0,0	34,65	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,0	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,0	21,65	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	0,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,0	64,97	-8,20	52,91	0,000	0,000
Oily Water Separators	V-06201/V-06202	100%	0,900	0,0	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TO-123301	50%	1,000	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533905	50%	1,000	0,0	76,22	0,44	49,47	0,000	0,000
Non Structural Tanks	0			58,8	56,82	0,28	42,08	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,26	-26,31	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,26	-18,53	47,34	0,002	0,008
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,40	0,000	0,000
Production Caisson	TD-533501	100%	0,900	47,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-682503	100%	0,900	38,5	59,48	13,14	44,86	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	18,68	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,68	17,80	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	53,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	0,8	48,10	-0,22	53,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,000	13,3	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,000	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,06	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,67	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	9,4	56,84	22,68	40,10	0,000	0,000
Caisson Pumps Antifoaling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	50,9	58,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,46	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,800	104,3	80,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	99,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	20,7	28,81	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122305	100%	0,650	8,0	79,28	31,85	46,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	46,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,00	46,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,65	-11,65	43,74	0,005	0,014

Connected Risers	ID	Invtell	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,5	24,34	-12,27	6,80
P-1-16	N4,N5,N6	Y	163,5	24,34	-12,27	6,80
P-1-08	N7,N8,N9	Y	163,5	24,34	14,75	6,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y	168,8	41,26	16,57	6,22
P-1-09	E3,E4,E5	Y	168,8	43,64	16,57	6,22
P-1-13	E6,E7,E8	Y	168,8	46,84	16,57	6,22
LOC A	E9,E10,E11	Y	168,8	49,64	16,57	6,22
P-1-04	E12,E13,E14	Y	168,8	52,04	16,57	6,22
I-1-03	E15,E16	Y	168,8	55,26	16,57	6,22
I-1-04	E17,E18	Y	168,8	57,26	16,57	6,22
P-1-07	E19,E20,E21	Y	168,8	59,64	16,57	6,32
P-1-10	E22,E23,E24	Y	168,8	62,64	16,57	6,32
P-1-12	E25,E26,E27	Y	168,8	65,64	16,57	6,32
P-1-15	E28,E29,E30	Y	168,8	68,64	16,57	6,32
P-1-01	E31,E32,E33	Y	168,8	71,64	16,57	6,32
I-1-05	S1,S2	Y	168,8	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	168,8	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	168,8	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	168,8	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Culm. (M/Fld) Riser UMBC"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMD12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-13 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	168,8	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y	168,8	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y	165,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	165,9	92,44	-14,25	29,25
Optical Cable	S32	Y	11,6	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	160,9	71,63	-36,29	6,00
Elecr. Cable	W3	Y	25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,6	68,20	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,82
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,92	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,82
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,82
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1bP	337	63,9	97,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	91,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	88,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	91,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	97,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	88,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,30	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,10	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,8	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,8	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,51	9,65	37,88
Pump Store Fwd	TT-02	99%	8,0	40,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	10,9	85,97	-23,96	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,58
Store	TT-09	5%	3,0	69,19	-5,33	37,58
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Control Caisson Laydown Area	TT-13	10%	6,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		161,3	76,84	4,33	37,80

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	65,89	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-32,80	46,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-9,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-10,00	36,56
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

TRIBUNAL MARITIMO

Petrobras - 36
Inclining Test

NOBLE DENTON

Ship Data

Length Between Perpendiculars (Fr 74 - Fr 0)	LBP:	112,776 m
Breadth Between Pontoons at Ends	BP:	77,75 m
Height to Main Deck at Centreline	DM:	42,980 m
Breadth of Deck	BD:	68,580 m

Data of Inclining Test

Date of Experiment	*Sunday 17th October 1999*				
Place of Test	*Sept Îles, Canada*				
Start of Test	*1130hrs*				
Finish of Test	*0010hrs*				
Wind	Speed	*4,5*	m/s	Hdg (T):	*0* Deg
Tide	Speed:	*0*	m/s	Hdg (T):	*0* Deg
Waves/Swell	HS:	*0,15*	m	Hdg (T):	*0* Deg
Mean Water Density	$\rho_{sea\ water}$	*1,0255*	tonnes/m^3		

Unit Status

Location of Unit	*50°11.14N*	66°27.8W	Unit Heading (T):	*321°*
Movable Weights	*Free Hanging*		Water Depth	*32,00 m*
Situation of Bilges	*Clean*			
Mooring Anchors	*Slackened*			
Mooring Ropes	*None*			

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Determination of Displacement prior to Inclining Test

Average Water Density in Test Place 1,0255 tonnes/m^3
Length Between Perpendiculars (LBP) = 112,776 m
Distance Between Draft Marks (LM) = 79,25 m (See sketch attached)

DRAFTS FROM U.S.K. (metres)

	Aft	Midships	Fore
Starboard	**18,890**	**18,970**	**18,890**
Port	**18,860**	**18,970**	**18,900**
Average	18,875	18,970	18,895
	(Taft)	(Tmid)	(T_{Fwd})

Draft calculations on perpendiculars

C1, C2, C3 values *
*(see sketch attached)

$T_{AP} = T_{aft} + C1*(T_{aft}-T_{fwd})/Lm$ T_{AP} = 18,87 m C1 = 16,76 m

$T_{\otimes} = T_{mid} - C2*(T_{aft}-T_{fwd})/Lm$ $T_{\otimes}$ = 18,97 m C2 = 0,70 m

$T_{FP} = T_{fwd} - C3*(T_{aft}-T_{fwd})/Lm$ T_{FP} = 18,90 m C3 = 16,76 m

Average Draft from USK:	$T_{MEAN} = (T_{AP} + 4*T_{\otimes} + T_{FP})/6$	18,94 m
Draft Correction of SW Density	$T'_{MEAN} = T_{MEAN}*(SW_{actual}/1.025)$	18,95 m
Unit's Trim	Trim = $T_{fwd} - T_{aft}$	-0,03 m
Longitudinal Centre of Flotation	LCF (from ⊗) =	-0,04 m
Layer Correction	t = LCF/LBP x Trim	0,000 m
Draft at LCF (inc Layer Correction)	Draft at LCF (T'_{LCF})	18,950 m
Displacement (at Draft T'_{LCF})	**Displacement (Δ)=**	**51835,6 Tonnes**

Hydrostatic Properties of Unit

DRAFT (m)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)
18,95	51835,6	-0,72	-0,02	7,92	1485,1	-0,04	-0,04	27,30	27,80

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Determination of Displacement After 4th Shift

Average Water Density in Test Place 1,0255 tonnes/m^3
Length Between Perpendiculars (LBP) = 112,776 m
Distance Between Draft Marks (LM) = 79,25 m (See sketch attached)

DRAFTS FROM U.S.K. (metres)

	Aft	Midships	Fore
Starboard	**18,860**	**18,940**	**18,920**
Port	**18,870**	**18,950**	**18,950**
Average	18,865	18,945	18,935
	(Taft)	(Tmid)	(T_{Fwd})

Draft calculations on perpendiculars

C1, C2, C3 values *
*(see sketch attached)

$T_{AP} = T_{aft} + C1*(T_{aft}-T_{fwd})/Lm$ T_{AP} = 18,85 m C1 = 16,76 m

$T_{\otimes} = T_{mid} - C2*(T_{aft}-T_{fwd})/Lm$ $T_{\otimes}$ = 18,95 m C2 = 0,70 m

$T_{FP} = T_{fwd} - C3*(T_{aft}-T_{fwd})/Lm$ T_{FP} = 18,95 m C3 = 16,76 m

Average Draft from USK:	$T_{MEAN} = (T_{AP} + 4*T_{\otimes} + T_{FP})/6$	18,93 m
Draft Correction of SW Density	$T'_{MEAN} = T_{MEAN}*(SW_{actual}/1.025)$	18,94 m
Unit's Trim	Trim = $T_{fwd} - T_{aft}$	-0,10 m
Longitudinal Centre of Flotation	LCF (from ⊗) =	-0,04 m
Layer Correction	t = LCF/LBP x Trim	0,000 m
Draft at LCF (inc Layer Correction)	Draft at LCF (T'_{LCF})	18,940 m
Displacement (at Draft T'_{LCF})	**Displacement (Δ)=**	**51820,4 Tonnes**

Hydrostatic Properties of Unit

DRAFT (m)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)
18,94	51820,4	-0,72	-0,02	7,92	1485,1	-0,04	-0,04	27,30	27,80

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DIRETOR
DIVISÃO DE SEGURANÇA DE NAVEGAÇÃO

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Proposed Inclining Test Weights & Levers

Start Area	Finish Area	Weight ID	Weight (tonnes)	Lever Arm (m)	Moment (t-m)	Total Moment /Area
1	4	A	8,810	78,38	690,5	
		B	8,681	78,38	680,4	1371,0
2	5	C	8,202	67,17	550,9	
		D	8,282	67,17	556,3	
		E	8,143	67,17	547,0	
		F	7,989	67,17	536,6	
		G	8,175	67,17	549,1	
		W	8,688	67,17	583,6	
		K	7,917	67,17	531,8	3855,3
3	6	T	8,860	58,52	518,4	
		U	8,853	58,52	518,0	
		V	9,001	58,52	526,7	1563,2
Total			101,601			6789,4

Area		Weight ID	Weight (tonnes)	Lever Arm (m)	Moment (t-m)	Total Moment /Area
4	1	L	8,066	78,38	632,2	
		M	7,849	78,38	615,2	1247,4
5	2	N	8,844	67,17	594,1	
		O	8,951	67,17	601,2	
		P	8,731	67,17	586,5	
		Q	8,824	67,17	592,7	
		R	8,865	67,17	595,5	
		S	8,851	67,17	594,5	
		H	7,903	67,17	530,8	4095,3
6	3	I	8,162	58,52	477,6	
		J	8,307	58,52	486,1	
		X	8,232	58,52	481,7	1445,4
Total			101,585			6788,1

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Inclining Test Weight Shifts

Predicted GM for 19.2m 6,87 m

Shift No	Description	Weight	Lever	Moment	Σ Moment	Approx Induced Trim (m)	Approx Induced Trim (Deg)	
1	A & B -> fore	8,681	78,49	681,35				
		8,86	58,37	517,14				
	T,U,V -> Fore	8,853	58,37	516,73				
		9,001	58,37	525,37	2932,1	0,929	0,472	0,472
2	C,D,E,F,G,W, -> Fore	8,202	67,17	550,93				
		8,282	67,17	556,30				
		8,143	67,17	546,97				
		7,989	67,17	536,62				
		8,175	67,17	549,11				
		8,688	67,17	583,57	3323,5	1,053	0,535	1,006
3	A & B -> Aft	8,81	-78,487	-691,47				
		8,681	-78,487	-681,35				
		8,86	-58,368	-517,14				
	T,U,V -> Aft	8,853	-58,368	-516,73				
		9,001	-58,368	-525,37	-2932,1	-0,929	-0,472	0,535
4	C,D,E,F,G,W -> Aft	8,202	-67,17	-550,93				
		8,282	-67,17	-556,30				
		8,143	-67,17	-546,97				
		7,989	-67,17	-536,62				
		8,175	-67,17	-549,11				
		8,688	-67,17	-583,57	-3323,5	-1,053	-0,535	0,000
5	L & M -> Aft	8,066	-78,487	-633,08				
		7,849	-78,487	-616,04				
		8,162	-58,368	-476,40				
	I,J,X -> Aft	8,307	-58,368	-484,86				
		8,232	-58,368	-480,49	-2690,9	-0,852	-0,433	-0,433
6	N,O,P,Q,R,S -> Aft	8,844	-67,17	-594,05				
		8,951	-67,17	-601,24				
		8,731	-67,17	-586,46				
		8,824	-67,17	-592,71				
		8,865	-67,17	-595,46				
		8,851	-67,17	-594,52	-3564,4	-1,129	-0,573	-1,006
7	L & M -> Fore	8,066	78,49	633,08				
		7,849	78,49	616,04				
		8,162	58,37	476,40				
	I,J,X -> Fore	8,307	58,37	484,86				
		8,232	58,37	480,49	2690,9	0,852	0,433	-0,573
8	N,O,P,Q,R,S -> Fore	8,844	67,17	594,05				
		8,951	67,17	601,24				
		8,731	67,17	586,46				
		8,824	67,17	592,71				
		8,865	67,17	595,46				
		8,851	67,17	594,52	3564,4	1,129	0,573	0,000

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Length & Location Of Pendulums

Trim Angle Measuring Devices			
Number	Length	Location	Type
1	17665	Central Caisson	Pendulum
2	19677	Fwd Stbd Lift Trunk	Pendulum
3	19595	Port Aft Lift Trunk	Pendulum
4	-	Central Caisson	Inclinometer

Heel Angle Measuring Devices			
Number	Length	Location	Type
5	18240	Central Caisson	Pendulum
6	-	Central Caisson	Inclinometer

Correction of Wind Speeds Recorded during Inclining Test

Vessel Heading 321,0°

	Average 1 minute Wind Speed				Reliable	Reliable	Wind @	Rel.
Shift No	50t	Bridge	22 te	Heading	Source	Wind	10m el	Heading
1	2,0	0,0	1,7	336	Any	1,8	1,6	15
2	0,7	0,0	1,8	231	22t	0,7	0,6	270
3	2,0	2,0	3,0	337	Any	2,5	2,2	16
4	2,0	0,0	2,8	313	Any	2,4	2,1	352
5	3,0	0,0	3,0	149	22t	3,0	2,6	188
6	3,0	1,2	3,0	143	22t	3,0	2,6	182
7	3,0	3,9	1,2	81	50t	1,2	1,0	120
8	5,0	3,3	3,3	98	50t	3,3	2,8	137

(All wind speeds are m/s, all headings are degrees)
(See Appendix D for explanation of wind speed corrections for height)

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Petrobras - 36
Inclining Test Results - Tangents and Moments (without and with wind correction)

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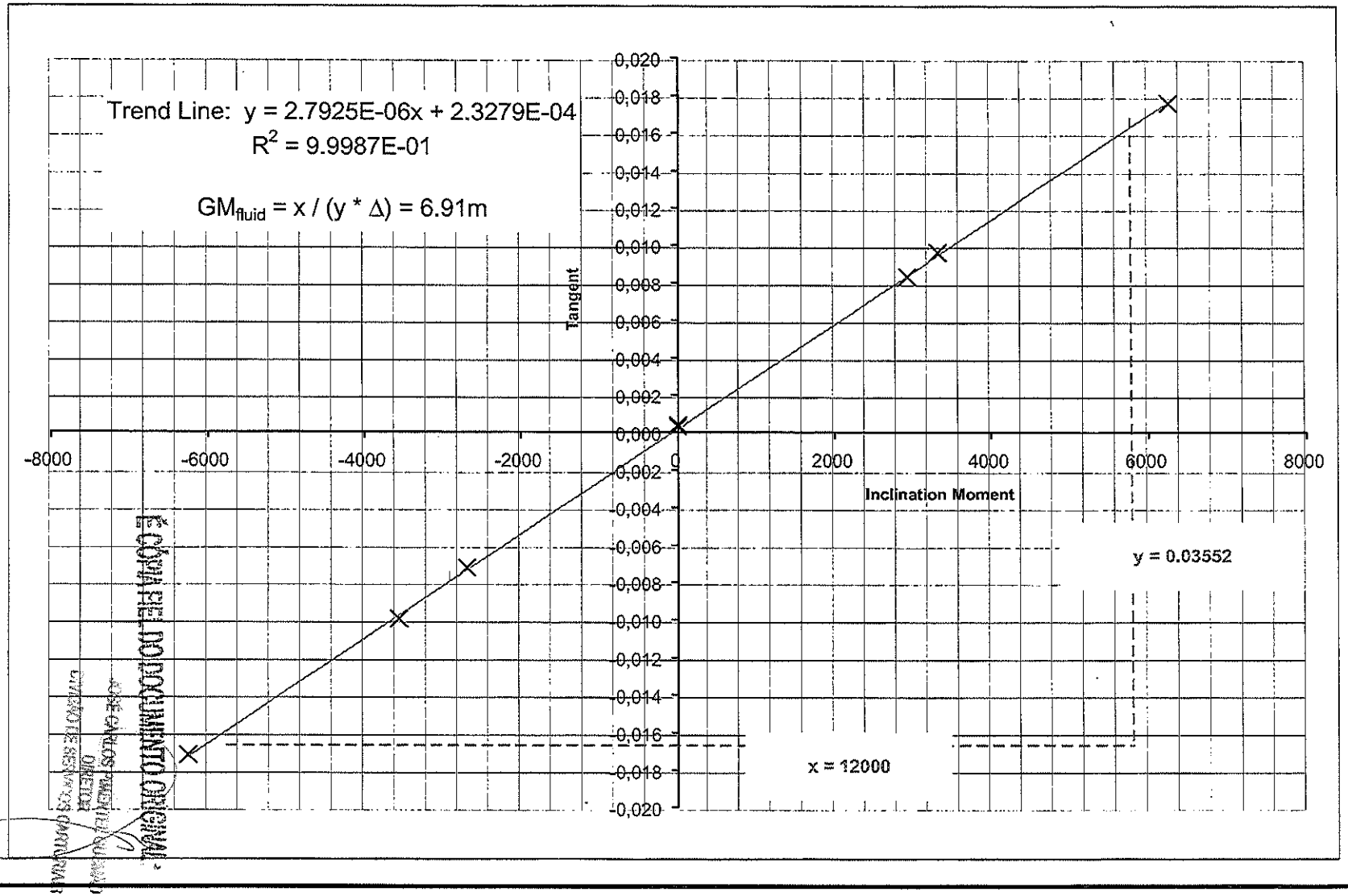
Pendulum Lengths	P1	P2	P3
	17665	19677	19595

Δ (MT)	51820,4 Tonnes

		Weight Shift	Shift from Origin (mm)	Tangent *1000	Mean Tangent *1000	Shifted Weight (tonnes)	Lever Arm (m)	Heeling Moment (MT-m)	Moment Causing Trim (MT-m)	Correction for Wind: Wind Speed (m/s)	Rel. Hdg (Deg)	OTM (MT-m)	Corr. Moment (MT-m)
1st Shift	P1	A-F	147,0	8,322	**8,342**	17,49	78,49	1372,8	**2932,1**	1,6	15,0	-22,6	**2909,5**
	P2		165,0	8,385		26,71	58,37	1559,2					
	P3		163,0	8,318									
2nd Shift	P1	A-F	311,5	17,634	**17,600**	49,48	67,17	3323,5	**6255,6**	0,6	270,0	0,0	**6255,5**
	P2		346,0	17,584									
	P3		344,5	17,581									
3rd Shift	P1	F-A	170,0	9,624	**9,616**	17,49	-78,49	-1372,8	**3323,5**	2,2	16,0	-42,9	**3280,6**
	P2		189,0	9,605		26,71	-58,37	-1559,2					
	P3		188,5	9,620									
4th Shift	P1	F-A	7,0	0,396	**0,387**	49,48	-67,17	-3323,5	**0,0**	2,1	352,0	-39,5	**39,5**
	P2		8,0	0,407									
	P3		7,0	0,357									
5th Shift	P1	F-A	-126,0	-7,133	**-7,233**	15,92	-78,49	-1249,1	**-2690,9**	2,6	188,0	59,9	**-2631,0**
	P2		-143,0	-7,267		24,70	-58,37	-1441,7					
	P3		-143,0	-7,298									
6th Shift	P1	F-A	-303,5	-17,181	**-17,202**	53,07	-67,17	-3564,4	**-6255,3**	2,6	182,0	57,4	**-6197,9**
	P2		-339,0	-17,228									
	P3		-337,0	-17,198									
7th Shift	P1	A-F	-174,5	-9,878	**-9,964**	15,92	78,49	1249,1	**-3564,4**	1,0	120,0	5,8	**-3558,6**
	P2		-197,0	-10,012		24,70	58,37	1441,7					
	P3		-196,0	-10,003									
8th Shift	P1	A-F	7,0	0,396	**0,319**	53,07	67,17	3564,4	**0,0**	2,8	137,0	69,1	**69,1**
	P2		6,0	0,305									
	P3		5,0	0,255									

Mean Tangent Plot for Inclining Test (Without Wind Correction)
(Inclination Moment against Tangent)

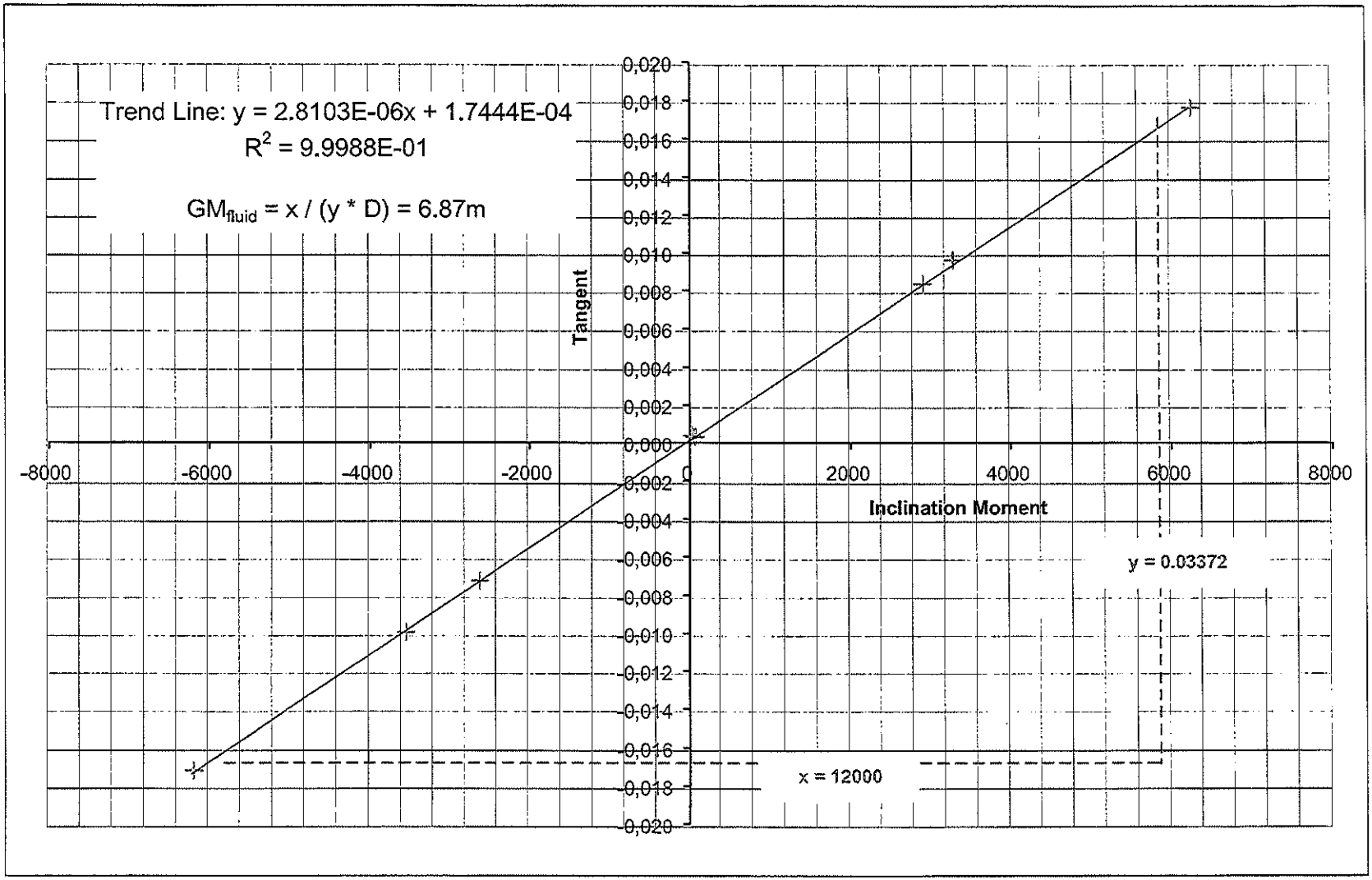
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Mean Tangent Plot for Inclining Test (With Wind Correction)
(Inclination Moment against Tangent)

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Determination of Metacentric Height & Unit Centre of Gravity

(Calculations based on Draft Readings after 4th Inclination)

Determination of the Metacentric Height

From the Moment-Tangent Plots MS Excel has calculated the Trend Line Equations

For No Wind Correction $y = 2.793e\text{-}06x + 2.328e\text{-}4$

$R^2 =$ 0,99987

$GM_{fluid} =$ $x / (y * \Delta)$ **6,91 m**

For Wind Correction $y = 2.8103e\text{-}06x + 1.7444e\text{-}4$

$R^2 =$ 0,99988

$GM_{fluid} =$ $x / (y * \Delta)$ **6,87 m**

Since the R^2 value for wind correction is closer to 1.0 and the y-intercept value is closer to zero, the wind corrected GM value should be used to derive the lightship vertical Centre of Gravity.

Calculation of Heeling Tangent

	Aft	Midships	Fore
Starboard	**18,860**	**18,940**	**18,920**
Port	**18,865**	**18,945**	**18,935**
Heeling (DT) (m)*	-0,005	-0,005	-0,015
Distance between Dr.Marks - BM (m)	73,676	21,950	73,676
TgA = DT/BM	-0,000068	-0,000228	-0,000204
Average Tangent (Tang)	-0,000166		

Drafts from USK (metres)

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Hydrostatic Properties of Unit
(Calculations based on Draft Readings after 4th Inclination)

DRAFT (m)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)
18,94	51820,4	-0,72	-0,02	7,92	1485,1	-0,04	-0,04	27,30	27,80

Stability Properties of Unit

Longitudinal Free Surface effect		11778,6	t-m
Transverse Metacentric Radius	$BM_T = KM_T - VCB$	19,38	m
Longitudinal Metacentric Radius	$BM_L = KM_L - VCB$	19,88	m
GM_{fluid} from Inclining Test (with wind correction)		6,87	m
Layer Correction	from Displacement Calculation (	0,00	m
Mean Tangent at Start of Test	Tang	-1,66E-04	
Corrected BM_L	$BM_{L\ fluid} = BM_{L\ solid} - FS/\Delta$	19,65	m
VCG from VCB	$BG = BM_{L\ fluid} - GM_{fluid}$	12,78	m

Centre of Gravity from Inclining Test

Vertical Centre of Gravity	VCG = VCB + BG	**20,70**	m from USK
Longitudinal Centre of Gravity	$LCG = LCB+[(KM_L-BG) \times t]$	**-0,72**	m from ⊗
TCG from cl	TCG = TCB+Tang x ((BMT - FS/Δ)-BG)	**-0,02**	m from CL

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Determination of Lightship

Description	Weight	LCG	TCG	VCG	I_{Tran}	I_{Long}
Liquids						
SW Ballast	-19269,20	51,15	0,71	5,74	3444,6	10976,1
Oils	-261,20	75,91	-4,67	38,11	525,4	227,2
PW, Misc	-311,20	84,31	0,67	25,74	127,8	575,3
Packages	-16,20	89,71	-5,45	49,25	0,0	0,0
Additions	50,53	72,67	9,06	42,38	0,0	0,0
Solids						
Deductions	-941,83	49,98	-4,18	27,45	0,0	0,0
Additions	93,23	71,32	2,54	52,32	0,0	0,0
Displacement	51820,40	57,10	-0,02	20,70	4097,8	11778,6
Lightship	**31164,53**	**60,621**	**-0,296**	**29,669**		

Summary of Lightship on the 17th October 1999

		(SCPC Predicted)
Lightship	**31164,5 Tonnes**	31421,4 Tonnes
LCG (Fr Fpp)	**60,62 m**	60,83 m
TCG (+ve Stbd)	**-0,30 m**	0,20 m
VCG (Fr USK)	**29,67 m**	30,07 m

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AMEC Process and Energy

NOBLE DENTON

P36 - RONCADOR FIELD DEVELOPMENT

Contract No: 7/15/2151

Document No. RL-3010.38-1320-974-NBD-946	Issue: O	Page: 1 of 172

Document Title:

Deadweight Survey and Inclining Test

O	Final		26/11/99		26/11/99		26/11/99		
Issue Rev	Issue or Revision Description	Orig. By	Date	Ch'kd By	Date	App'd By	Date	App'd By	Date
		NDE						PETROMEC	

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REVISION CHANGE NOTICES

Rev.	Location Changes	Brief Description of Change

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Appendix B Inclining Test Readings – Drafts, Pendulums, Wind & Mooring Tensions

Appendix C Determination of Metacentric Height and Lightship Characteristics

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1. SUMMARY

This document reports the results of the Inclining Test performed for the Petrobras-36 FPU. The Inclining Test was carried out in accordance with the Inclining Test Procedure (ref. 4) in the Baie Des Sept Îles, Canada on the 17th October 1999. The unit was moored in a sheltered location and ballasted down to a draft of 18.94m where the displacement of the rig was calculated at 51820.4 metric tonnes. The deadweight survey was completed and the inclining test was then performed with environmental forces almost negligible.

The Inclination Test was performed using concrete weights moved longitudinally over the deck of the Unit. A total of eight shifts were made and the moment-tangent plots (appendix C) clearly showed that accurate results had been obtained.

The results were analysed both without and with a correction for the wind conditions recorded at the time. Statistical analysis indicates that when the inclining moments are corrected for wind effects a slightly better trend line is obtained. The GM_{fluid}, calculated from the gradient of the moment-tangent plot, is 6.87m. The resulting lightship weight and centre of gravity have been calculated as:

Lightship	**31164.5**	**Tonnes**
LCG (Fr. Fpp)	**60.62**	**Metres**
TCG (+ve stbd)	**-0.30**	**Metres**
VCG (Fr. USK)	**29.67**	**Metres**

A review of the operational stability of the Unit indicates all stability margins have increased to the following values:

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Condition	Draft (m)	Δ (tonnes)	VCG (m)	Allow VCG (m)	Margin (m)
Operating	22.0	56503	22.18	23.04	0.86
Fairlead Inspection	18.0	50389	24.18	25.23	1.05
Transit	11.0	37083	27.06	44.90	17.84

2. INTRODUCTION

The semi-submersible FPU P36 (thereinafter referred to as the Unit) is being upgraded for production duties offshore Brazil in the Roncador Field.

Modifications to the platform are in excess of 8000 tonnes; therefore an inclining test has been performed in order to calculate the new lightship weight and centre of gravity of the unit.

3. REFERENCES

No	Title	Rev	Document No.
1	RINa – Rules for the construction and classification of MODU's		Effective from January 1997
2	Fincantieri – Inclining Test Report & Lightship Determination		BKLT.MC/CAL N.201
3	Principles of Naval Architecture		SNAME
4	Inclining Test Procedure	A	ET-3010.38-1320-974-NBD-943
5	Sounding Tables	O	RL-3010.38-1320-941-NBD-658-01
6	Stability Analysis	B	RL-3010.38-1320-960-NBD-908
7	Force and Motion Analysis	D	RL-3010.38-1320-960-NBD-906
8	Weight Control Report	V	RL-3010.38-1320-915-NBD-903

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

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4. PREPARATIONS FOR THE INCLINING TEST

Deadweight Survey

A deadweight survey was carried out by Davie Industries (Appendix A) to determine all items not part of the Unit lightship and all items of the lightship not yet installed.

The survey was carried out and summarised in four parts:

1. **Solid Deductions**
   Items which are not part of the lightship or which are not yet installed in their correct position, in particular stores and spares being shipped to Brazil, pipe spools not yet installed etc.

2. **Solid additions**
   Items which are not on board but will be installed prior to the unit commencing operations and items which need to be relocated to their final location, in particular electric cable, pipe spools, etc.

3. **Liquid deductions**
   Variable liquid weights including seawater ballast, fuel oil, potable water, etc.

4. **Liquid additions**
   Liquids in equipment or pipework that are part of the lightship but were not present at the time of the survey.

Particular attention was paid to the following areas:

a. Pipe spools that were fabricated but not installed were stored close to their final location, thereby requiring only a modification to the pipe spool's centre of gravity.

b. For electrical cables not installed, their weight and centre of gravity were calculated from the relevant work packs. All electrical cable drums stored onboard were treated as deadweight items.

c. For work packs identified up to the 8th October 1999, which contained material not installed by Davie Industries, material takeoffs were carried out, and additions made to the deadweight survey.

d. All inclining weights and supporting timbers were weighed with a calibrated scale and witnessed. Report sheet in Appendix A.

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e. A detailed inventory of all stores and spares onboard was made, all items were considered as deadweight since no permanent spares list existed at the time of the survey.

f. All Ansell Jones marine equipment, sea chest covers and other permanent marine items were considered as part of the lightship with their permanent stowage location as the Marine Store (situated on the main deck).

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g. A detailed inventory of fittings and pipe insulation for the Process Gas Modules (PGM's) was made, and the final weight distributed evenly between the three packages.

h. All tanks containing liquid were sounded prior to the inclining test taking place. After completion of the inclining test the seawater ballast tanks, fuel oil tanks and potable water tanks were re-sounded in order to ensure no significant changes had occurred.

Inclining Equipment and Data Recording

The inclination of the Unit was carried out using 22 prefabricated concrete weights of approximately 8 tonnes each. Prior to being placed onboard each weight was repaired, reinforced with a steel jacket, painted and then weighed with a calibrated scale. The weighing certificates are attached in Appendix A.

Six draft reading devices were positioned around the rig, four on the forward/aft ends of the fairlead boxes and two (one port & one starboard) on the central caisson. The scales were permanently attached, requiring only that a damping tube be positioned alongside in order to read the draft.

The Unit had four anemometers to record wind speeds; two were located on the forward end of the platform above the main deck and one located on each of the cranes. Each recorded the wind speed in metres per second and the two above the main deck also recorded the direction.

Prior to commencing the inclining test the mooring lines were slackened so that they hung vertically down, therefore only the weight of the chain needed to be considered in the deadweight survey. During the inclining test the mooring tensions were recorded in order to ensure that there was no change in the external load the lines were applying to the Unit.

The inclinations were recorded at three stations using pendulums, damped in an oil bath. A backup inclinometer was prepared in case of emergency. An additional pendulum and an inclinometer were available to check for any changes to the heel. Pendulum motions were recorded approximately 10 minutes after the weight shift was finished, ten oscillations were recorded and the mean taken.

Inclining Test

Personnel from Davie Industries (Davie) carried out the inclining test. All readings were reported to Noble Denton Europe Limited (NDE) for analysis and checking. Representatives of Petromec, Brasoil and RINa witnessed and accepted the results of the Inclining Test.

A set of preliminary calculations and results were prepared and signed by all parties onboard at the completion of the inclining test (see appendix F). Minor corrections have been made in this report following a review of the site calculations.

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5. RESULTS

Draft Mark Readings and Unit Displacement

Upon completion of the ballasting operations, the draft readings were taken and used to compute the displacement of the Unit. One set of draft readings was taken before the inclining test commenced and another after the fourth shift had been completed. Due to small wavelets during the first set of readings they have been discarded in favour of using the draft readings made during after the fourth weight shift when near flat water conditions were observed.

The calculation to determine the Unit displacement is contained in Appendix C (pages 2 & 3). The displacement as calculated using the second set of data and the associated hydrostatic properties for this displacement are shown in the table 5-1 below.

DRAFT (m)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KM_T (m)	KM_L (m)
18.94	51820.4	-0.72	-0.02	7.92	1485.1	-0.04	-0.04	27.30	27.80

Table 5-1 Petrobras 36 Draft and Hydrostatic Properties during the Inclining Test

Deadweight Survey

The deadweight survey was carried out as described in section 4. The following results were obtained, note – negative values are deductions, positive values are additions

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Description	Weight (Tonnes)	LCG (m)	TCG (m)	VCG (m)	I_{trans} (m^4)	I_{long} (m^4)
SW Ballast	-19269.20	51.15	0.71	5.74	3444.6	10976.1
Oils	-261.20	75.91	-4.67	38.11	525.4	227.2
PW, Misc. Liquids	-311.20	84.31	0.67	25.74	127.8	575.3
Packages	-16.20	89.71	-5.45	49.25	0.0	0.0
Liquid Additions	50.53	72.67	9.06	42.38	0.0	0.0
Solid Deductions	-941.83	49.98	-4.18	27.45	0.0	0.0
Solid Additions	93.23	71.32	2.54	52.32	0.0	0.0

Table 5-2 Results of Deadweight Survey of Petrobras 36

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Determination of GM_{fluid}

From the pendulum readings for each shift the heel angle (as a tangent) can be calculated. This value can then be used with the known moment causing the angle to calculate the GM_{fluid} value as shown in the formula below.

$$GM_{Fluid} = \frac{w.d}{\Delta \tan\phi}$$

where:
w = weight moved across deck
d = distance of weight shift
Δ = Unit displacement
$\emptyset$ = angle of heel

It is however more accurate to plot the moments ($w.d$) against the tangents ($tan\ \emptyset$) and compute the GM from the best-fit trend line.

Equation 5-1 is however only true if there are no other external forces causing a change in the heel angle, for instance the effects of wind and current or a change in mooring line tensions might need to be considered.

Wind speeds and mooring line tensions during the inclining test were monitored and recorded during the actual pendulum reading stage. The readings are contained in Appendix B. No significant change was recorded in the mooring tensions, however the wind speed and direction varied during the inclining test.

To account for the wind effect of the inclining test, the longitudinal wind force coefficients were extracted from the Force and Motion Analysis (ref. 7). Since the transverse coefficients do not effect the trim angle during the inclining test they can be ignored. A mean wind speed and direction was computed for each weight shift and the longitudinal wind overturning moment computed. This value can then be used to correct the weight shift moment. For a more detailed explanation of this calculation see Appendix E.

Once a corrected moment has been calculated the moment-tangent plot can be created and the resultant trend line applied. Using Excel 97 a plot is created and the trend line fitted. Excel also records the R^2 correlation value giving an indication of the consistency of the results. The moment tangent plot with a correction for wind is shown overleaf.

From the moment tangent plot trend line the GM_{fluid} is calculated as:

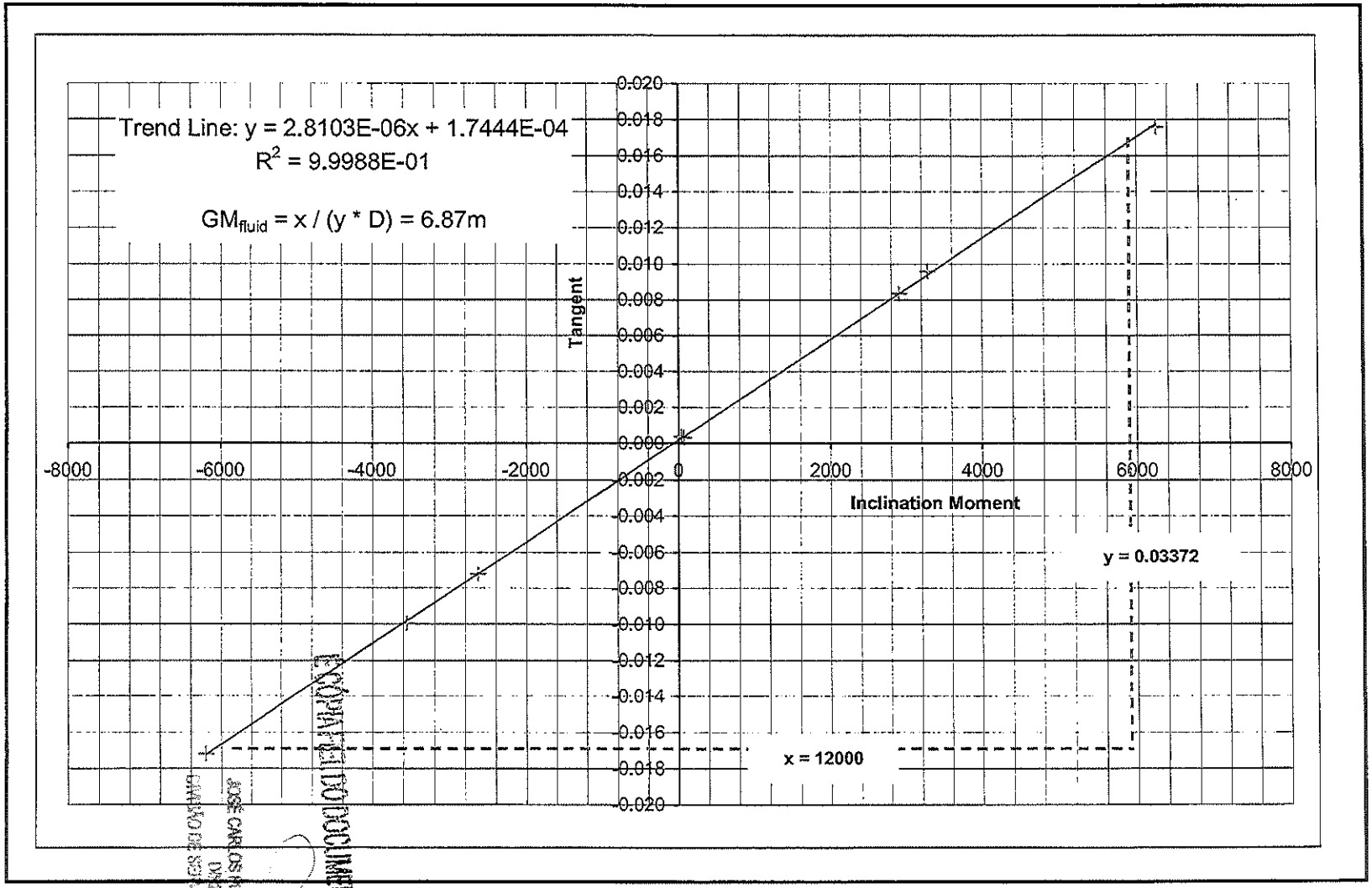
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DIRETOR
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$$GM_{fluid} = \frac{12000}{0.03372 \times 51820.4} = 6.87 metres$$

$$Correlation\ value\ R^2 = 0.99988$$

Note that a correlation value this close to 1.00 indicates that very good consistency has been achieved during the test, however, good correlation may only show that the errors have been consistent.

Moment – Tangent Plot for Inclining Test of Petrobras 36 (with Wind Corrections)



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Determination of Lightship Weight and Centre of Gravity

With the completion of the deadweight survey and inclining test the lightship Weight and centre of gravity can be accurately calculated. Appendix C contains the details of the calculations. The weight and centre of gravity of the unit is calculated as follows:

The vertical centre of gravity is calculated by correcting the GM_{fluid} for free surface and then subtracting this value from the metacentre height i.e.

$$KG = KM_L - (GM_{fluid} + fsc)$$

The longitudinal and transverse centres of gravity are calculated from the trim and heel of the Unit from which the centre of gravity relative to the centre of buoyancy can be computed.

$$LCG = LCB + [(KM_L - BG) \times t] \quad \textit{where } t\textit{= layer correction}$$

$$TCG = TCB + \tan\theta_{heel} \times \left[\left(BM_T - \frac{FS}{\Delta}\right) - BG\right]$$

The lightship weight is calculated by summing the calculated displacement and the deadweight deductions and additions.

Based on the above results the calculated displacement and centre of gravity of the rig during the inclining test is shown in the table below along with the computed lightship weight of the Petrobras 36.

Description	**Weight** (Tonnes)	**LCG** (m)	**TCG** (m)	**VCG** (m)	$\mathbf{I_{trans}}$ (m^4)	$\mathbf{I_{long}}$ (m^4)
Displacement During Inclining Test	51820.40	57.10	-0.02	20.70	4097.8	11778.6
Calculated Lightship	**31164.53**	**60.621**	**-0.296**	**29.669**	0.0	0.0

Table 5-3 Displacement during Inclining Test and Calculated Lightship of Petrobras 36

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6. CONCLUSIONS AND QUALIFICATIONS

The lightship weight calculated falls within the net weight and factored weight reported in the final Weight Control Report (Ref. 8). From table 6-1 below it can be seen that the inclined weight was 345 tonnes less than WCR rev. V, and 560 tonnes less than the original predicted lightship (it should be noted that the original weight report had no weight values for the riser decks or any SCR equipment – significant weights).

Report No.	Dry Weight* (tonnes)	LCG (m)	TCG (m)	VCG (m)
Report O (Original)	31725.3	61.51	0.43	30.19
Report V (Current)	31421.4	60.83	0.20	30.07
Inclined Lightship	31164.5	60.62	-0.30	29.67

Table 6-1 Predicted Lightship and Inclined Lightship

The longitudinal centre of gravity has moved forward from the last WCR, and the vertical centre of gravity has decreased. Both the inclined values improve the stability margins calculated in Appendix D. The transverse centre of gravity was considerably adrift from its WCR predicted position. It was known throughout the construction phase that the TCG was always located on the portside of the Unit not the starboard as predicted by the WCR. It is assumed that the error occurs in the reporting of the removed items where it was known that COG values were not accurately recorded.

The Inclining Test was performed systematically and accurately by all parties involved. The deadweight survey and the inclining test can be considered to give an accurate lightship weight when the Unit completes construction.

However in order to ensure that another deadweight survey and/or an inclining test is not required prior to final classification the following should be noted:

1. As each work pack is completed the final weight should be noted and marked against the calculated value. If there is a significant difference, this should be noted in a lightship modification form.
2. An unknown number of workpacks were to be issued by Davie Industries after the 8th October 1999, no estimate was included in the deadweight survey for these and they should be monitored during the final construction stage in Brazil and a lightship modification made as necessary.
3. Any other changes made to the Unit not recorded in this report will require a lightship modification to be made.

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Appendix A

Deadweight Survey

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DIRETOR
DIVISÃO DE SISTEMAS ANTIGOS

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Appendix B

Inclining Test Readings – Drafts, Pendulums, Wind & Mooring Tensions

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Appendix C

Determination of Metacentric Height and Lightship Characteristics

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Appendix D

Stability Loading Conditions for the Petrobras 36

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DIRETOR
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Appendix E

Explanation of Wind Correction Calculations

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Appendix F

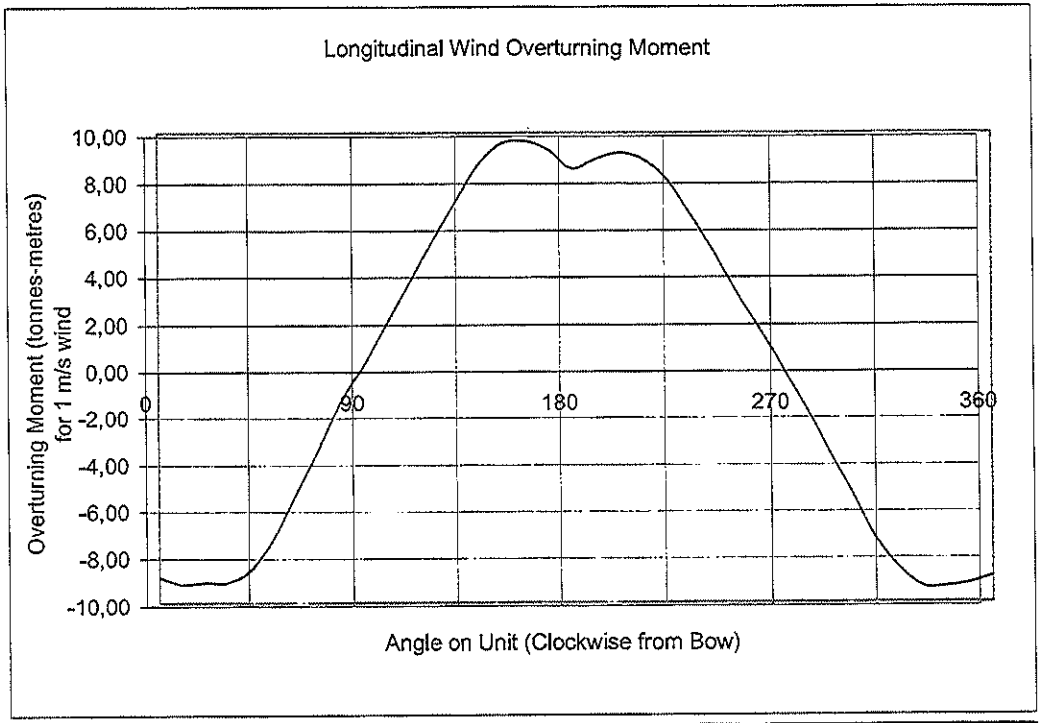
Site Calculations

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Effects of Wind Overturning Moment on Inclining Test Results

NOBLE DENTON

PSI [deg]	Long. Force [tonnes]	VCofW Keel	VCB [metres]	Long. OTM [tonne-m]
0	-0,235	45,82	7,92	-8,91
10	-0,243	45,82	7,92	-9,20
20	-0,241	45,82	7,92	-9,13
30	-0,241	45,82	7,92	-9,13
40	-0,228	45,82	7,92	-8,62
50	-0,191	45,82	7,92	-7,25
60	-0,140	45,82	7,92	-5,32
70	-0,089	45,82	7,92	-3,35
80	-0,035	45,82	7,92	-1,32
90	0,006	45,82	7,92	0,23
100	0,053	45,82	7,92	2,01
110	0,099	45,82	7,92	3,75
120	0,146	45,82	7,92	5,54
130	0,189	45,82	7,92	7,16
140	0,229	45,82	7,92	8,69
150	0,252	45,82	7,92	9,56
160	0,254	45,82	7,92	9,64
170	0,245	45,82	7,92	9,27
180	0,224	45,82	7,92	8,48
190	0,233	45,82	7,92	8,84
200	0,241	45,82	7,92	9,13
210	0,235	45,82	7,92	8,91
220	0,214	45,82	7,92	8,12
230	0,176	45,82	7,92	6,67
240	0,133	45,82	7,92	5,05
250	0,085	45,82	7,92	3,20
260	0,043	45,82	7,92	1,63
270	-0,002	45,82	7,92	-0,09
280	-0,047	45,82	7,92	-1,80
290	-0,097	45,82	7,92	-3,69
300	-0,145	45,82	7,92	-5,51
310	-0,195	45,82	7,92	-7,39
320	-0,228	45,82	7,92	-8,62
330	-0,247	45,82	7,92	-9,35
340	-0,247	45,82	7,92	-9,35
350	-0,243	45,82	7,92	-9,20
360	-0,235	45,82	7,92	-8,91



1. The Unit longitudinal wind force coefficients have been extracted from the Force and Motion Analysis Report. (The transverse wind loads do not affect the inclining moments and can therefore be ignored).
2. The longitidinal overturning moment calculated in the table on the left is for a wind speed of 1 m/s, thus this number is mulitplied by the square of the corrected wind speed.
3. No account has been taken of the horizontal faces that become exposed as the vessel is inclined. For angles less than 1 degree this is negligible.
4. The point of rotation is considered to be the vertical centre of buoyancy of the unit.
5. The wind speeds recorded onboard the P36 during the inclining test are considered as 1 minute mean and have been corrected for height using the DNV formula

$$V_{wind}(h) = V_R \cdot \left[\frac{h}{V_R}\right]^{0.09}$$ where V = wind speed in m/s

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Loading Condition: Operations for Damage Control - Maximum Operating Condition
Accidental Flooding of Void Space 32 Stbd 3

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	237,5	28,2	26,1	25,1	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56740,7**	**56,927**	**0,084**	**22,12**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	33,94 m
MCTC	25,11 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

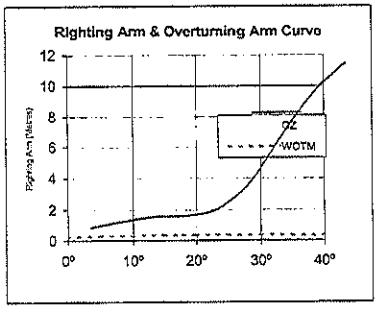
Draft Aft Perpendicular (INPUT)	20,86 m
Heel about centreline (INPUT)	1,35°
Trim About aft perp. (INPUT)	1,32°
Heel about centreline	0,781 m
Trim About aft perp.	2,605 m
Mean Draft Aft	20,855 m
Mean Draft @ Amidships	22,157 m
Mean Draft Forward	23,460 m

Statical Stability

Corrected VCG =	22,13 m	22,19 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,67 m	5,01 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,85 m



CÓPIA FIEL DO DOCUMENTO ORIGINAL
VISTO DE CONFERÊNCIA DO SERVIÇO DE REGISTROS AUTOMOTORES
PREFEITURA DA CIDADE DO RIO DE JANEIRO
SECRETARIA MUNICIPAL DE FAZENDA
DIVISÃO JUDICIAL

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	279,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	279,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,56	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,56	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,01	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,01	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,70	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,85	35,81	0,000	0,000
Fuel Oil	0			2383,0	58,70	0,04	5,08	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	97,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,82	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,00	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSeid	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	70,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,000	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,000	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,55	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	26,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,86	0,000	0,000
Cm. Cen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			66,2	84,90	6,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.L.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DC	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,20	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,6	82,39	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,90	20,76	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,90	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,90	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,90	-26,70	27,00	0,000	0,000
Helifuel Reluel	A58001	100%	1,000	7,9	34,60	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	29,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,05	20,76	43,94	0,000	0,000
FW Chem Dosing Tank	T53101	100%	1,000	2,0	68,78	-5,30	52,91	0,000	0,000
FW Cooling ExamineTank	T55102	100%	1,000	0,5	0,00	-6,20	52,01	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,72	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	50%	1,080	12,1	53,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-633305	50%	1,000	9,0	76,22	6,44	40,47	0,000	0,000
Non Structural Tanks	0			32,1	56,42	9,28	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	497,8	92,28	-28,01	47,27	0,002	0,004
Oil Separation - Train B	UQ-122302	100%	0,850	497,4	92,28	16,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TO-533601	100%	0,900	47,0	64,74	-16,71	19,91	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-582503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-582501-02	100%	0,900	28,4	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-582502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-582501-01	100%	0,900	16,5	59,08	17,90	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,36	17,86	36,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	36,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	10,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,6	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,93	43,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,073	14,5	62,88	30,50	45,86	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,03	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,67	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A36003	100%	1,000	6,4	56,94	22,08	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,08	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,10	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,960	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,61	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,95	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1657,9	76,85	-11,85	43,74	0,004	0,019

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-09	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		166,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,04	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	40,04	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	40,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	53,28	18,57	6,22
I-1-04	E17,E18	Y		108,6	37,20	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	39,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,04	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,04	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMD12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 /LOC H))	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,03	-36,29	6,00
Electr. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RO-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-36,29	6,00
Connected Risers	0			5051,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,56	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-16,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,02	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	96,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	96,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5302	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,5	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,5	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,6	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	109,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	80,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	40,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	10,8	85,97	-23,85	37,58
Production Warehouse	TT-06	80%	30,9	88,81	24,15	37,56
Production Warehouse	TT-07	80%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-0,33	37,88
Elecrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,58
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,57	22,62	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,64	4,33	37,89

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	65,80	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	26,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Operations for Damage Control - Maximum Operating Condition
Accidental Flooding of Void Space 32 Stbd 3 - CORRECTIVE ACTION

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	3%	15	28,19	31,74	0,08	0,002	0,008
SW Ballast 7P	555,2	1,025	96%	545	26,94	-36,18	5,86	0,001	0,011
SW Ballast 7S	555,2	1,025	4%	24	26,94	36,18	0,28	0,001	0,010
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10590	38,63	0,23	5,49	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	237,5	28,2	26,1	25,1	-	-
SW Ballast	10589,6	38,6	0,2	5,49	0,009	0,067
Displacement	**56503,2**	**57,048**	**-0,025**	**22,20**	**0,014**	**0,081**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	33,32 m
MCTC	24,63 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

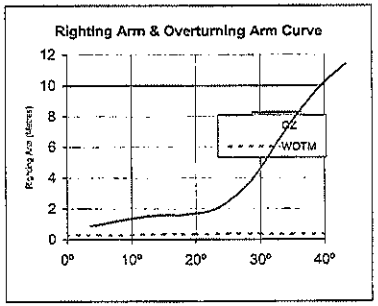
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,22 m	22,28 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,58 m	4,92 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,76 m



Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

CONFERE COM O ORIGINAL

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6S	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	8P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,9	84,06	-29,98	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,56	29,98	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	566,0	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	566,0	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,82	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,04	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	76,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,76	0,04	5,05	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,91	-15,92	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,82	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,3	75,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	81,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,69	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,5	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,5	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UO-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UO-122305	100%	0,900	15,0	80,88	0,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			85,2	84,90	6,10	40,30	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,40	-26,31	0,56	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,40	26,31	9,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Air Column Separator Tank	N1P	100%	1,000	13,8	79,72	-28,29	35,10	0,000	0,000
Air Column Separator Tank	N1S	100%	1,000	13,8	79,72	28,29	35,10	0,000	0,000
Miscellaneous Tanks	0			82,2	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	28,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-28,70	27,00	0,000	0,000
Helifuel Refuel	A56001	100%	1,000	0,0	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A56002	100%	1,000	0,0	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,0	21,56	29,76	43,04	0,000	0,000
FW Chem Dosing Tank	T65101	100%	1,000	0,0	63,02	-5,30	52,01	0,000	0,000
FW Cooling ExansionTank	T65102	100%	1,000	0,0	64,07	-5,20	52,91	0,000	0,000
Oily Water Separators	V-66201A/-66202	100%	0,900	0,0	80,77	0,00	39,80	0,000	0,000
Glycol Sump Tank	TG-123301	60%	1,080	0,0	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	0,0	70,22	8,44	46,47	0,000	0,000
Non Structural Tanks	0			0,0	90,82	8,78	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	467,6	92,28	-28,91	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-19,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,88	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-662303	100%	0,900	38,5	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-662501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-662502	100%	0,900	19,2	54,48	19,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-662501-01	100%	0,900	16,5	50,68	17,80	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,96	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,66	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	46,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-652112	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,89	43,08	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,0	57,44	12,87	48,39	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,00	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	30,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,04	22,68	48,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	6,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	S-511102A/B/C	100%	1,025	59,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,850	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	28,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,935	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	77,28	31,62	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,28	16,86	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,85	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N5	Y		163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-06	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		168,7	24,34	17,37	8,50
I-1-01	E1,E2	Y		168,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		168,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	Y		168,0	48,84	18,57	6,32
LOC A	E9,E10,E11	Y		168,0	49,84	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		168,6	55,26	18,57	6,22
I-1-04	E17,E18	Y		168,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E27,E27	Y		168,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		168,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		168,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		168,6	92,44	15,13	20,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,0	92,44	9,75	20,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	20,25
P-1-08 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S16	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S18	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S16	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		168,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y		168,6	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,0	92,44	-11,25	29,25
SPARE (RJS-S13)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		159,9	71,03	-20,29	6,00
Electr. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-20,29	6,00
Connected Risers	0			5051,5	66,28	2,77	15,15

Crew & Stores @ SD	ID	%		Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%		10,0	94,55	-24,00	40,62
Production Warehouse	SD-02	20%		10,3	88,60	24,00	41,12
Warehouse	SD-03	20%		30,0	85,73	-15,02	41,12
Open Store	SD-04	0%		0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%		14,0	40,21	6,48	40,52
Dry Store 2	SD-06	25%		11,5	37,21	15,03	40,52
Chilling Room / Freezor	SD-07	20%		12,4	42,47	15,03	41,02
Crew & Effects	0	50%		15,0	45,72	0,00	41,82
Crew & Stores @ SD	0			104,1	83,11	5,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	83,9	87,02	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	83,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	83,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	83,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	83,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	83,9	25,20	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	83,9	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	83,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	83,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	83,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	83,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	83,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	83,9	25,20	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	83,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	83,9	20,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	83,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	80,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,53	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,4	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	105,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	105,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	90,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,04	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,51	0,65	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	38,9	88,81	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,60	31,44	37,88
Store	TT-09	5%	3,0	69,19	-9,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,76
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,76
Hydraulic Workshop	TT-12	20%	0,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,69	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,33	37,89

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,8	90,80	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,50	46,99
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	39,55	-3,82	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	85,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	85,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	85,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-9,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		398,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

ORIGINAL DOCUMENTO ORIGINAL

Loading Condition: Operations for Damage Control - Maximum Operating Condition
Emergency Dump of Separator Train A into Starboard Drains Storage Tank

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	960,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	474,1	84,9	20,5	27,4	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1260,0	74,2	-6,2	42,6	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56502,2**	**56,994**	**0,345**	**21,95**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	35,19 m
MCTC	25,97 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

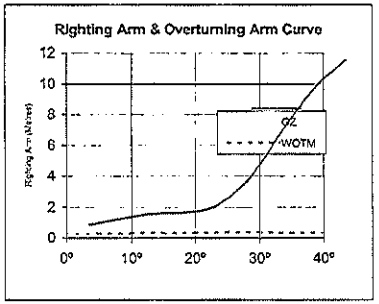
Draft Aft Perpendicular (INPUT)	21,38 m
Heel about centreline (INPUT)	4,40°
Trim About aft perp. (INPUT)	0,57°
Heel about centreline	2,551 m
Trim About aft perp.	1,120 m
Mean Draft Aft	21,381 m
Mean Draft @ Amidships	21,941 m
Mean Draft Forward	22,501 m

Statical Stability

Corrected VCG =	21,96 m	22,02 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,84 m	5,18 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,02 m



Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,91	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,91	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1040,3	46,58	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-20,00	25,00	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	20,00	25,00	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	29,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	366,5	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	580,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	588,5	61,72	-23,85	4,63	0,000	0,000
FO Tank	12S	100%	0,960	588,5	61,72	23,02	4,63	0,000	0,000
FO Overflow	P	100%	0,960	13,4	76,94	-17,70	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	76,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,08	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	97,61	-15,02	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	76,58	20,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-19,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	49,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	100%	0,900	465,9	84,85	22,94	25,22	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	76,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,85	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,98	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122305	100%	0,900	15,0	89,66	0,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			474,1	84,86	20,52	27,43	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-20,37	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	20,37	0,38	0,000	0,000
W.L.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,0	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,0	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	20,31	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	46,75	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	26,15	0,00	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	26,15	0,00	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	0,00	27,00	0,000	0,000
Helifuel Refuel	AS8001	100%	1,000	7,0	34,55	-1,45	43,92	0,000	0,000
Helifuel Disp	AS8002	100%	1,000	0,1	25,01	-1,45	45,10	0,000	0,000
Incinerator DO Day Tank	T30305	100%	0,870	0,2	21,66	-1,45	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,62	-1,45	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-1,45	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	-1,45	29,60	0,000	0,000
Glycol Sump Tank	TO-123301	60%	1,080	12,1	55,23	-1,45	37,06	0,000	0,000
Tank Top Sump Tank	V-533005	50%	1,000	8,0	76,22	-1,45	40,47	0,000	0,000
Non Structural Tanks	0			31,1	58,02	40,25	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122501	13%	0,850	60,9	92,29	-28,51	47,27	0,002	0,000
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,007	0,000
Oil Separation - Heating	UQ-122303	100%	0,850	76,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	94,74	-15,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,66	0,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-662303	100%	0,900	38,5	58,45	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-662601-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-662502	100%	0,900	19,2	54,49	15,68	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-662501-01	100%	0,900	16,5	50,68	17,60	37,32	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	91,55	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	0,8	48,10	-0,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,83	45,36	0,000	0,000
TCG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,07	48,30	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,50	45,06	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,89	14,72	39,68	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	0,4	68,04	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	92,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	56,39	0,22	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,800	104,3	80,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	39,66	-21,80	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,865	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,850	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,850	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,850	8,0	79,28	2,09	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1260,0	74,24	-0,21	42,60	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y	163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y	108,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y	160,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	160,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y	160,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y	160,0	52,64	18,57	6,32
I-1-03	E15,E16	Y	108,6	55,25	18,57	6,22
I-1-04	E17,E18	Y	108,6	57,25	18,57	6,22
P-1-07	E19,E20,E21	Y	160,0	59,04	18,57	6,32
P-1-18	E22,E23,E24	Y	160,0	62,64	18,57	6,32
P-1-01	E25,E26,E27	Y	160,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	160,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y	160,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	160,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	160,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	160,0	92,44	6,75	29,25
P-1-08 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-04 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Outm. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	108,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y	108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y	160,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	160,9	92,44	-14,25	29,25
Optical Cable	S32	Y	11,6	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,0	71,63	-36,26	6,00
Elect. Cable	W3	Y	29,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,16
Oil C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,59	-18,57	6,50
Oil B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,8	69,26	2,77	13,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	0,0	64,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	59,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,23	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	97,32	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	91,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	81,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2bP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	91,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	80,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	81,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0		1021,9	56,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	105,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	105,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,64	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,51	0,89	37,88
Pump Store Fwd	TT-02	99%	8,0	49,23	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,07	-23,66	37,88
Production Warehouse	TT-06	60%	30,0	85,61	24,15	37,88
Production Warehouse	TT-07	60%	31,4	89,51	24,00	37,88
Store	TT-08	5%	4,1	62,99	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,18	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	01,69	-2,75	37,88
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,82	37,68
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,33	37,80

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	0,0	65,89	8,51	43,87
Deck Locker	MD-02	35%	0,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,16	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,60	46,90
Tote Tank Laydown	LD-01	40%	30,1	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-3,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	109,65	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,20	43,00
Helicopter & Laydown Areas	0		296,7	32,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

CÓPIA CONTROLADA
CROSS HANDLING GUARD
DRDEP 56 CATARINA

Operations for Damage Control - Maximum Operating Condition
Emergency Dump of Separator Train A into Starboard Drains Storage Tank - **CORRECTIVE ACTION**

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	90%	810	6,78	30,71	5,62	0,005	0,013
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	90%	481	84,58	-31,74	4,56	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	63%	495	98,59	36,27	3,92	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10628	38,68	-1,13	5,23	0,01	0,07

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	474,1	84,9	20,5	27,4	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1260,0	74,2	-6,2	42,6	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10828,2	38,7	-1,1	5,23	0,012	0,068
Displacement	**56503,2**	**57,048**	**-0,025**	**21,91**	**0,017**	**0,082**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	35,41 m
MCTC	26,09 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

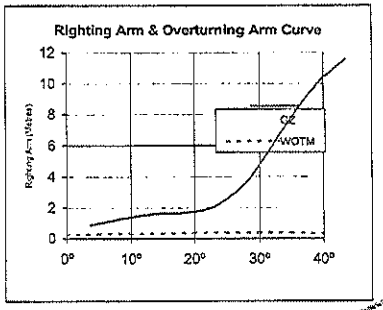
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	21,93 m	21,99 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,87 m	5,21 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,05 m



	BY	Sign	Date
Prepared			
Checked			

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	4P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	4S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	8P	100%	1,000	246,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	8S	100%	1,000	246,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,36	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,36	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Processx FW)	0			1049,3	46,36	0,00	4,30	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,00	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,00	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,05	36,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,65	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,65	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,0	58,70	0,04	5,08	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,9	97,61	-19,62	25,61	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	76,58	10,10	35,61	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,36	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N2S	100%	0,870	73,5	62,61	15,82	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,82	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,000	0,0	84,85	-22,64	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	100%	0,000	405,9	84,85	22,64	25,22	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,5	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,86	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,6	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,66	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-9,46	49,25	0,000	0,000
Lub Oils	0			474,1	84,86	20,52	27,43	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-28,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	28,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-514001	100%	1,000	37,0	86,08	-25,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-514001	100%	1,000	37,0	86,08	25,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	79,72	-28,20	35,10	0,000	0,000
Alt Column Separtor Tank	N1S	100%	1,000	13,8	79,72	28,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	[illegible]	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	-28,40	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	-28,40	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	28,40	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	28,40	27,00	0,000	0,000
Hellifuel Retuel	A58001	100%	1,000	7,9	34,55	-12,33	43,92	0,000	0,000
Hellifuel Disp	A58002	100%	1,000	0,1	25,91	-9,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	-26,46	43,94	0,000	0,000
FW Chem Dosing Tank	T58101	100%	1,000	2,0	63,02	-5,20	52,91	0,000	0,000
FW Cooling ExcessTank	T58102	100%	1,000	0,5	84,97	-9,20	52,91	0,000	0,000
Oily Water Separators	V-66201A/-66202	100%	0,900	1,4	80,77	-11,30	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	55,23	-4,60	37,08	0,000	0,000
Tank Top Sump Tank	V-533005	50%	1,000	8,0	76,22	-7,74	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	-7,98	42,08	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	13%	0,850	60,9	92,29	-26,51	47,27	0,002	0,000
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533001	100%	0,900	47,0	64,74	-10,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	3,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-9,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	100%	0,900	36,5	59,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	81,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,68	17,80	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,55	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,53	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,6	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	5,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,67	46,38	0,000	0,000
Safety Gas KO Drum Package	V-122001	100%	0,975	14,9	62,88	30,09	45,00	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	83,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	9,4	59,84	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	58,36	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	100%	1,025	40,2	74,40	0,00	17,57	0,000	0,000
Process Piping & Valves		100%	0,880	104,3	60,48	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	9,4	99,66	-21,80	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	28,61	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,905	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1260,0	74,24	-6,21	42,00	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-09	N7,N8,N9	Y		163,5	24,34	14,78	8,80
FUTURE	N10,11	Y		163,7	24,34	17,37	8,50
I-1-01	E1,E2	Y		108,6	41,28	18,57	6,32
P-1-08	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,26	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,20	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,04	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	65,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 0°	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6°	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6°	S14	Y		93,8	92,44	2,50	29,25
inj. Culm. (M/Fld) Riser UMB0°	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4°	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12°	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6°	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 8°	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6°	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6°	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		108,9	92,44	-11,25	29,25
SPARE (RJS-313)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-36,29	6,00
Elect. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,22	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		150,2	46,77	-36,29	6,00
Connected Risers	0			5051,6	66,26	2,77	15,19

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	0,0	84,58	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-5,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	65,0	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	81,02	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,65	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,0	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	58,99	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,5	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,31	9,85	37,68
Pump Store Fwd	TT-02	99%	8,0	49,28	9,85	37,68
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,85
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,86
Mech Workshop	TT-05	20%	19,9	65,07	-23,86	37,58
Production Warehouse	TT-06	60%	30,0	88,61	24,15	37,56
Production Warehouse	TT-07	60%	31,4	89,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,63	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,69	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,56
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @ TT	0		189,3	78,94	4,33	37,66

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	3,6	85,89	8,51	43,67
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,67
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,67
Crew & Stores @ MD	0		42,9	51,19	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-36,80	48,80
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,95	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,26	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,45	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	105,05	-19,00	36,58
Multipurpose Court	LD-11	80%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Operations for Damage Control - Maximum Operating Condition
Emergency Dump of Separator Train A into Port Drains Storage Tank

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	474,1	84,9	-18,8	27,4	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1260,0	74,2	-6,2	42,6	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56502,2**	**56,994**	**0,016**	**21,95**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	35,19 m
MCTC	25,97 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

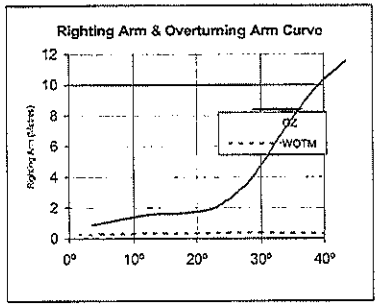
Draft Aft Perpendicular (INPUT)	21,44 m
Heel about centreline (INPUT)	0,49°
Trim About aft perp. (INPUT)	0,57°
Heel about centreline	0,281 m
Trim About aft perp.	1,120 m
Mean Draft Aft	21,441 m
Mean Draft @ Amidships	22,001 m
Mean Draft Forward	22,561 m

Statical Stability

Corrected VCG =	21,96 m	22,02 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,84 m	5,18 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,02 m



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Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	276,2	40,25	-23,91	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,97	4,86	36,10	0,000	0,000
Potable Water	0			402,7	84,35	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,65	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,65	0,000	0,000
FO Tank	12P	100%	0,960	569,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	569,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	10,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	10,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2363,0	58,70	0,04	5,09	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	19,10	35,81	0,000	0,000
DO Sollo	N1P	100%	0,870	105,3	74,52	-13,99	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	16,62	39,10	0,000	0,000
DOGeti	N4S	100%	0,870	73,5	79,15	15,62	39,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,85	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	100%	0,900	405,9	84,85	-22,94	25,22	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	84,65	-30,07	40,67	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,19	40,67	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	40,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UO-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UO-122305	100%	0,900	15,0	89,08	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			474,1	84,86	-18,76	27,43	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.L.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-02001	100%	1,000	37,9	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,31	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	20,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-20,70	27,00	0,000	0,000
Helifuel Refuel	AS6001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	AS6002	100%	1,000	7,9	25,91	-19,26	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,69	20,76	43,94	0,000	0,000
FW Chem Dosing Tank	T65101	100%	1,000	2,0	83,62	-5,30	52,01	0,000	0,000
FW Cooling ExansionTank	T65102	100%	1,000	0,5	84,97	-6,20	52,91	0,000	0,000
Oily Water Seperators	V-60201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,050	12,1	56,23	21,50	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	70,22	0,44	45,47	0,000	0,000
Non Structural Tanks	0			32,1	58,82	6,28	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	13%	0,850	60,9	92,20	-26,31	47,27	0,002	0,000
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	84,74	-16,71	18,61	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,08	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-082503	100%	0,900	38,5	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-082501-02	100%	0,900	26,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-082502	100%	0,900	19,2	54,48	18,60	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-082501-01	100%	0,900	19,2	50,68	17,60	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	100%	0,900	1,7	61,36	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	18,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,5	89,51	-13,30	43,82	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,03	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	6,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,98	30,50	45,95	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-10,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,94	22,98	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	S-511 022A/B/C	100%	1,025	59,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,70	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	20,7	26,61	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,3	31,61	23,00	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	79,26	31,85	48,80	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,26	16,85	48,66	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,26	2,06	48,66	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1260,6	74,24	-4,51	42,80	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		183,5	24,34	+15,27	8,80
P-1-15	N4,N5,N6	Y		183,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		183,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		108,8	41,28	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-07	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,8	55,28	18,57	6,22
I-1-04	E17,E18	Y		108,8	57,28	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,8	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Comn. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,8	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,8	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-36,29	6,00
Electr. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,10
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,50	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-36,29	6,00
Connected Risers	0			5051,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	16,0	84,56	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,32	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,02	-33,46	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,46	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,32	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,46	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,46	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	11,70

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,5	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	83,31	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	40,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,8	85,97	-23,86	37,58
Production Warehouse	TT-06	80%	30,0	88,61	24,15	37,58
Production Warehouse	TT-07	80%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	21,44	37,88
Store	TT-09	5%	3,0	89,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,76
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,76
Hydraulic Workshop	TT-12	20%	8,2	75,37	4,63	37,66
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,57	22,62	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		109,3	78,64	4,33	37,84

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	65,80	8,51	43,87
Dock Locker	MD-02	35%	9,7	46,89	8,51	43,87
Marine Equipment Storage	MD-03	50%	27,0	46,89	8,51	43,87
Crew & Stores @ MD	0		42,0	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	49,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,29	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	70,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	105,05	-10,00	30,58
Multipurpose Court	LD-11	60%	127,2	39,37	1,29	43,00
Helicopter & Laydown Areas	0		296,7	55,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

CÓPIA DO DOCUMENTO ORIGINAL
DIVISÃO JUDICIÁRIA

Petrobras 36 - Roncador Field Development
Operations Manual - Volume 7
Loading Condition:

Operations for Damage Control - Maximum Operating Condition
Emergency Dump of Separator Train A into Port Drains Storage Tank - CORRECTIVE ACTION

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	98%	885	6,78	-30,71	6,12	0,005	0,013
SW Ballast 2S	877,6	1,025	96%	863	6,78	30,71	5,98	0,005	0,013
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	45%	244	28,19	31,74	1,69	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	39%	209	84,58	-31,74	1,32	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10828	38,68	0,59	5,37	0,02	0,08

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	474,1	84,9	-18,8	27,4	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1260,0	74,2	-6,2	42,6	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10828,2	38,7	0,6	5,37	0,018	0,081
Displacement	**56503,2**	**57,048**	**-0,025**	**21,94**	**0,023**	**0,095**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	35,19 m
MCTC	25,89 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

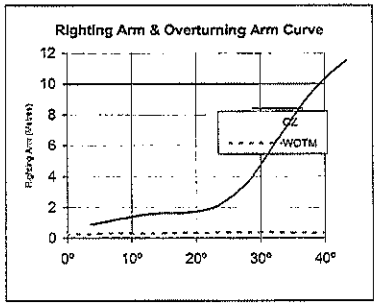
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	21,96 m	22,03 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,84 m	5,17 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,01 m



ESTA PÁGINA FOI ROUBADA DO ORIGINAL
ASSINATURA DO CARGO RESPONSÁVEL PELO ROUBO
DATA DO ROUBO
CARIMBO DO SERVIÇO SECRETO

NOBLE DENTON

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	270,2	40,25	-29,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	276,2	40,25	29,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,69	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,36	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,36	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,88	38,10	0,000	0,000
Potable Water	0			402,7	84,00	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,88	4,63	0,000	0,000
FO Tank	12S	100%	0,960	580,5	61,72	23,82	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	76,94	-17,76	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,01	-15,02	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,86	15,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,82	-13,06	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,80	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	70,06	-4,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	100%	0,900	465,8	84,85	-22,94	25,22	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,6	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,49	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,95	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,6	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,6	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	100%	0,900	15,0	89,67	-24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			474,1	84,85	-18,76	27,43	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,0	78,49	-29,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,8	78,49	29,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Generator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Generator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,09	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p4k	T05001A	0%	1,316	0,0	25,90	26,70	27,00	0,000	0,000
Fwd clmn p4k	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p4k	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p4k	T05001B	0%	1,316	0,0	25,90	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,53	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,86	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-6,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	84,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,060	12,1	55,23	21,03	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	50,82	0,78	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122001	100%	0,850	80,0	52,29	-26,51	47,27	0,002	0,000
Oil Separation - Train B	UO-122002	100%	0,850	467,4	52,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122003	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	9,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	9,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	9,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	100%	0,900	36,5	58,48	19,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,45	18,69	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,0	50,88	17,69	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,55	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,55	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Slop Plte Matrix Separator	V-68212	100%	0,900	10,6	58,51	-13,90	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,060	13,3	57,13	10,93	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,060	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,0	62,86	30,50	45,90	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	36,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-15,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	58,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,58	15,20	44,42	0,000	0,000
Seawater Supply Pumps contains	B-511102A/B/C	100%	1,025	59,0	50,39	13,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	49,2	74,40	9,00	17,87	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,3	31,81	23,90	46,58	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,850	8,0	79,26	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,850	8,0	79,26	16,85	48,86	0,000	0,000
Process Gas Modulo 'A'	UO-122305	100%	0,850	8,0	79,26	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1260,0	74,24	-6,21	42,00	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-10	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		160,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		160,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		160,0	46,64	18,57	6,32
LCC A	E9,E10,E11	Y		160,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		160,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,26	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		160,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	Y		160,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		160,0	65,64	18,57	6,32
P-1-11	E28,E29,E30	Y		160,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		160,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	19,13	29,25
P-1-05	S3,S4,S5	Y		160,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		160,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		160,0	92,44	6,75	29,25
P-1-06 (M/Rd) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Rd) Riser 8"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Rd) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Cuiin. (M/Rd) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Rd) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Rd) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Rd) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y		166,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,0	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RO-02	RO-2	Y		190,9	71,83	-35,29	6,00
Elect. Cable	W3	Y		25,8	82,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-16,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-36,29	6,00
Connected Risers	0			5051,6	56,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	10,0	84,50	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,9	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	09,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	43,72	0,00	41,82
Crew & Stores @ SD	0		104,1	65,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	2aP	357	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	4aP	337	63,9	91,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	3P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	91,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	20,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5362	1021,9	66,36	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,10	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,83	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,84	18,20

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,31	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,16	37,58
Production Warehouse	TT-07	60%	31,4	89,51	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	30%	16,3	75,27	-8,10	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	8,2	75,37	4,83	37,08
Central Caisson Laydown Area	TT-13	10%	9,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,97	22,62	37,58
Instrumentation Workshop	TT-15	10%	0,1	75,10	23,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,55	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	65,80	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	80%	27,8	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		296,7	52,07	5,71	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

COMPLETE DOCUMENT ORIGINAL
PETROBRAS 3 FPSO PROJECT

TRIBUNAL

Loading Condition: Operations for Damage Control - Maximum Operating Condition
Emergency Dump of Separator Train A free flood port & stbd drains storage tanks

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	536,2	84,9	0,8	25,2	0,005	0,037
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1199,1	73,3	-5,1	42,4	0,002	0,007
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56503,4**	**56,986**	**0,211**	**21,91**	**0,016**	**0,100**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	35,47 m
MCTC	26,03 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

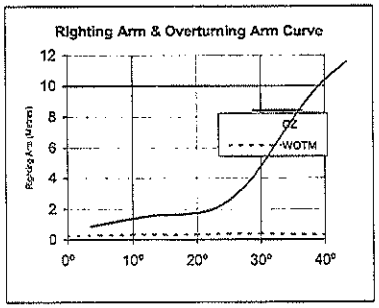
Draft Aft Perpendicular (INPUT)	21,36 m
Heel about centreline (INPUT)	2,78°
Trim About aft perp. (INPUT)	0,65°
Heel about centreline	1,611 m
Trim About aft perp.	1,281 m
Mean Draft Aft	21,362 m
Mean Draft @ Amidships	22,003 m
Mean Draft Forward	22,643 m

Statical Stability

Corrected VCG =	21,92 m	22,01 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,88 m	5,19 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,03 m



	BY	Sign	Date
Prepared			
Checked			

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO PACHECO
DIRETOR
CAPITANIA DOS PORTOS CONFERIDA

MARINHA DO BRASIL
CAPITANIA FLUVIAL DA AMAZÔNIA OCIDENTAL

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1048,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,38	0,19	29,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	588,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	588,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,61	0,000	0,000
FO Overflow	S	100%	0,960	16,1	78,87	22,86	35,61	0,000	0,000
Fuel Oil	0			2383,9	56,70	0,04	5,09	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	97,61	-15,62	35,61	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,61	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,89	39,59	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	74,08	-3,35	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	98%	0,900	234,0	84,85	-22,94	22,96	0,003	0,016
Drains Storage Tank Stbd	N1S	98%	0,900	234,0	84,85	22,94	22,96	0,003	0,016
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,94	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	100%	0,900	15,0	89,07	24,65	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	100%	0,900	15,0	89,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,23	0,000	0,000
Lub Oils	0			536,2	84,89	0,76	25,23	0,005	0,037

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,36	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,36	0,000	0,000
W.L.ng Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.ng Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-31001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-32001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,30	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-20,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	20,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,3	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Dep	A58002	100%	1,000	0,1	25,91	-19,29	43,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,65	28,76	43,94	0,000	0,000
SW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling Exansion Tank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TG-123301	60%	1,080	12,1	35,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,62	0,26	47,68	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,28	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	76,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TO-533001	100%	0,850	47,0	84,74	-16,71	19,61	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UO-682503	100%	0,900	36,5	38,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	26,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,46	18,68	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,5	30,88	17,69	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	100%	0,900	1,7	91,58	17,86	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	85,66	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UO-122301	100%	1,060	8,3	37,44	12,87	49,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,26	30,58	46,90	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,08	38,95	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	8,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	6,2	32,88	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	G-511102A/B/C	100%	1,025	50,0	88,30	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,87	0,000	0,000
Process Piping & Valves		100%	0,850	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,86	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	28,61	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,850	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,850	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,850	8,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1199,1	73,32	-5,08	42,37	0,002	0,007

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-10	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		109,5	24,34	14,73	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	8,80
I-1-01	E1,E2	Y		108,8	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,0	55,26	18,57	6,22
I-1-04	E17,E18	Y		108,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,0	92,44	15,13	22,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-08 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		91,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	N		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RC-2	Y		150,9	71,63	-36,29	6,00
Elect. Cable	W3	Y		25,8	82,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
Oil, C - EXPORT Riser 10" RO-03	W5	Y		144,9	33,59	-18,57	6,50
Oil, B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-36,29	6,00
Connected Risers	0			5051,6	66,29	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	10,0	64,50	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	58,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	99,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,0	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,26	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,92	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,95	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,95	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,95	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,92	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,95	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	3392	1021,0	56,30	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,62	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,6	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,62	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,98
Central Caisson Laydown Area	TT-13	10%	0,6	61,80	-2,75	37,08
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	75,19	23,30	37,58
Crew & Stores @ TT	0		169,3	76,64	4,38	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	65,89	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marina Equipment Storage	MD-03	60%	27,5	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,29	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	35,56
Multipurpose Court	LD-11	60%	127,2	30,37	1,28	43,00
Helicopter & Laydown Areas	0		298,7	52,07	3,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

CÓPIA FIEL DO DOCUMENTO ORIGINAL
DIVISÃO JUDICIÁRIA TRIBUNAL MARÍTIMO

Loading Condition: Operations for Damage Control - Maximum Operating Condition - **CORRECTIVE ACTION**
Emergency Dump of Separator Train A free flood port & stbd drains storage tanks

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	36%	193	28,19	31,74	1,17	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,001	0,011
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	40%	215	84,58	-31,74	1,38	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	19%	150	98,66	-36,37	1,26	0,002	0,021
SW Ballast 20S	768,2	1,025	76%	596	98,59	36,27	4,70	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,72	-0,43	5,26	0,01	0,09

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	536,2	84,9	0,8	25,2	0,005	0,037
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1199,1	73,3	-5,1	42,4	0,002	0,007
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,0	38,7	-0,4	5,26	0,011	0,087
Displacement	**56503,2**	**57,048**	**-0,025**	**21,87**	**0,019**	**0,132**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	35,67 m
MCTC	26,02 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

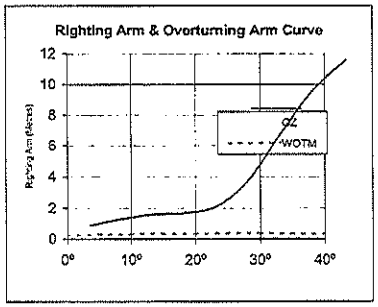
Draft Aft Perpendicular (INPUT)	21,36 m
Heel about centreline (INPUT)	2,78°
Trim About aft perp. (INPUT)	0,65°
Heel about centreline	1,611 m
Trim About aft perp.	1,281 m
Mean Draft Aft	21,362 m
Mean Draft @ Amidships	22,003 m
Mean Draft Forward	22,643 m

Statical Stability

Corrected VCG =	21,89 m	22,01 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,91 m	5,19 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,03 m



CÓPIA FIEL DO ORIGINAL
DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,34	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,00	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,00	0,000	0,000
Pot Water Day Tk	0	100%	1,000	13,2	78,87	4,95	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,10	28,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,63	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,63	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,85	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	51,72	23,02	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	79,94	-17,78	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2985,9	58,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-16,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	16,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,30	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	59%	0,900	234,0	84,65	-22,94	22,99	0,003	0,016
Drains Storage Tank Stbd	N1S	58%	0,900	234,0	84,85	22,94	22,99	0,003	0,016
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	79,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,67	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,67	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Gm. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			536,2	84,85	0,78	25,23	0,005	0,037

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Slige Holding Tank	P	50%	1,000	2,4	78,49	-26,31	0,38	0,000	0,000
Slige Holding Tank	S	50%	1,000	2,5	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Reluel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-19,26	46,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,66	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-00201/V-00202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TO-123301	60%	1,080	12,1	55,22	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533005	50%	1,000	8,9	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,62	0,28	47,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,30	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	82,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-482503	100%	0,900	38,5	58,48	13,14	44,88	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-482501-02	100%	0,900	29,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-482502	100%	0,900	19,2	54,46	18,86	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-482501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	100%	0,900	1,7	61,55	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,50	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,835	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	0,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Marine Separator	V-40212	100%	0,900	19,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,060	6,3	57,44	12,97	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,50	45,00	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	36,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,53	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	93,87	-10,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	60,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	92,89	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	58,39	5,25	20,00	0,000	0,000
Water injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,850	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	69,66	-21,00	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	23,90	46,58	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	92,89	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,86	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1199,1	75,32	-5,08	42,37	0,002	0,007

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		183,5	24,34	-12,27	8,80
P-1-10	N4,N5,N6	Y		183,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		183,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		108,6	41,28	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-07	E6,E7,E8	Y		166,0	64,54	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,28	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,28	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-15	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-10	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	82,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	82,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	82,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	82,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	82,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	82,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	82,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	82,44	-4,00	29,25
P-1-12 (M/Fld) Riser 6"	S21	Y		93,8	82,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	82,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,6	82,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y		166,9	82,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	82,44	-14,25	29,25
Optical Cable	S32	Y		11,6	82,44	-16,00	29,25
SPARE	W1	N		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		166,9	71,63	-36,23	6,00
Elect. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		166,2	48,77	-36,29	6,00
Connected Risers	0			5051,6	68,28	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,92
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	91,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	6P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	26,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	91,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	26,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	20,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,83	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,6	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,9	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,51	9,65	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,65	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	61,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,0	85,97	-23,85	37,58
Production Warehouse	TT-06	60%	36,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	90,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,10	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,69	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,97	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	29,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,33	37,89

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,8	85,09	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,60	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,97	43,00
Misc Laydown 1	LD-02	40%	30,6	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Loading Condition: Operations for Damage Control - Maximum Operarting Condition
Mooring Failure of 1 Line - Fail Line 8 (Port 1)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1620,1	60,0	4,1	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56396,2**	**57,110**	**0,047**	**22,11**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	33,98 m
MCTC	25,14 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

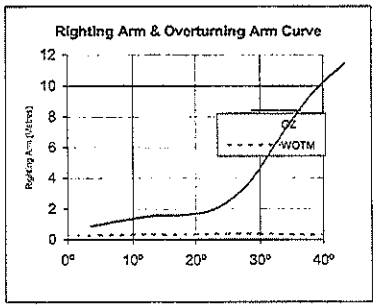
Draft Aft Perpendicular (INPUT)	22,63 m
Heel about centreline (INPUT)	0,88°
Trim About aft perp. (INPUT)	-0,71°
Heel about centreline	0,510 m
Trim About aft perp.	-1,394 m
Mean Draft Aft	22,627 m
Mean Draft @ Amidships	21,930 m
Mean Draft Forward	21,233 m

Statical Stability

Corrected VCG =	22,13 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,67 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,04	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,9	56,70	0,04	5,66	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,8	57,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,8	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,22	-13,00	39,29	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	76,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	29,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,86	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			89,2	84,99	8,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,0	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.U. ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.U. ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,09	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	79,72	-28,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	13,8	79,72	28,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,94	-0,11	27,75	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helitrol Refuel	A58001	100%	1,000	7,0	34,55	-12,33	49,02	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	29,01	-19,29	45,10	0,000	0,000
Incinerator DO Day Tank	T56305	100%	0,870	0,2	21,66	20,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TO-122301	50%	1,060	12,1	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	6,28	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-28,51	47,27	0,002	0,005
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,25	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533301	100%	0,900	47,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-662503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-662501-02	100%	0,900	26,4	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-662302	100%	0,900	19,2	54,46	18,03	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-662501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injin Packege (Water Inj)	A42001	100%	0,900	1,7	61,58	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,060	13,3	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,060	8,3	57,44	12,87	49,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	20,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,60	14,72	30,68	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	93,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	86,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	6,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,0	66,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,800	104,3	80,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,80	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	20,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,61	23,90	46,58	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1087,0	78,65	-11,85	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,5	24,34	-15,27	8,80
P-1-11	N4,N5,N6	Y	163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y	108,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y	108,6	55,25	18,57	6,22
I-1-04	E17,E18	Y	108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	108,6	82,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	82,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,9	82,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	82,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	82,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	82,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	82,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,8	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	82,44	-5,00	29,25
I-1-02	S22,S23	Y	108,6	82,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y	166,0	82,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y	166,9	82,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,0	82,44	-14,25	29,25
Optical Cable	S32	Y	11,6	82,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,9	71,63	-36,29	6,00
Elecir. Cable	W3	Y	25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,6	60,20	2,77	13,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	86,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,40	-0,25	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	91,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	6S	337	63,9	80,47	31,12	16,19
Chain Locker - Stbd AR (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,59	0,00	9,70

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1620,1	60,04	4,15	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	9,0	89,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	40,28	9,85	37,88
Mech Store 1	TT-03	25%	10,5	86,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	86,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	0%	3,0	69,19	-4,33	37,88
Electrical Workshop	TT-10	50%	18,3	75,27	-8,16	37,75
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,75
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,63	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	76,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	65,89	8,51	43,67
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,67
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,67
Crew & Stores @ MD	0		42,9	51,16	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-39,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launchor Laydown	LD-10	0%	0,0	106,05	-19,00	35,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,28	43,00
Helicopter & Laydown Areas	0		298,7	52,67	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Operations for Damage Control - Maximum Operarting Condition
Mooring Failure of 1 Line - Fail Line 8 (Port 1) - CORRECTIVE ACTION

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	11%	84	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	50%	267	28,19	31,74	1,95	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	38%	206	84,58	-31,74	1,30	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	89%	702	98,59	36,27	5,52	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10934	38,26	0,42	5,34	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1620,1	60,0	4,1	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10934,1	38,3	0,4	5,34	0,007	0,055
Displacement	**56503,2**	**57,048**	**-0,025**	**22,07**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,32 m
MCTC	25,37 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

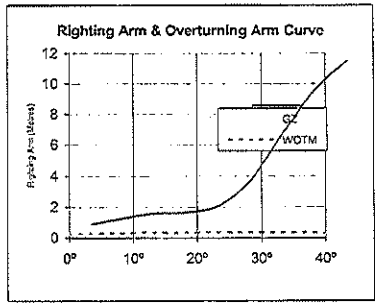
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,08 m	22,14 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,72 m	5,06 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,90 m



Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Operations Manual - Volume 7
Loading Condition: Operations for Damage Control - Maximum Operating Condition

NOBLE DENTON

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,60	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	76,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,6	56,70	0,04	6,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,5	67,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,8	76,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,80	39,36	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,000	0,0	84,85	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,000	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	81,84	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,90	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			66,2	84,90	9,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,5	78,49	-26,31	0,36	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,5	78,49	26,31	0,36	0,000	0,000
W.L.ning Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.ning Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-29,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	29,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,09	-6,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Helifuel Reluel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-15,20	45,10	0,000	0,000
Incinerator DO Day Tank	T55005	100%	0,870	0,2	21,86	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	65,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	40,47	0,000	0,000
Non Structural Tanks	0			32,1	58,82	6,28	42,08	0,000	0,000

Units are as follows: Weights - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-29,51	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TQ-533601	100%	0,000	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122305	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-882503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-882501-02	100%	0,900	29,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-882502	100%	0,000	19,2	54,49	18,63	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-882501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,000	1,7	61,50	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,000	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,035	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,060	13,3	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,060	8,3	57,44	12,87	49,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	39,50	46,93	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,09	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,67	-16,38	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	5,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	50,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,850	124,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,60	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	20,61	17,04	40,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,61	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1867,0	78,66	-11,05	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	8,80
I-1-01	E1,E2	Y		166,6	41,26	18,57	6,32
P-1-09	E3,E4,E5	Y		166,0	43,04	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,84	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,26	18,57	6,32
I-1-04	E17,E18	Y		108,6	57,26	18,57	6,32
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-15	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UM30"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UM312"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-8,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (WI / LOC H)	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		100,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-36,29	6,00
Elect. Cable	W3	Y		25,8	62,17	-18,57	6,30
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,58	-18,57	6,30
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	53,20	-18,57	6,00
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-36,29	5,90
Connected Risers	0			3951,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	83,73	-15,82	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,92
Dry Store 2	SD-06	20%	11,5	37,21	15,03	40,92
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	3P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 8)	8P	337	63,9	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 6)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	28,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5397	1021,9	56,39	0,00	9,75

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1620,1	60,04	4,15	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,31	9,65	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,65	37,88
Mech Store 1	TT-03	25%	10,5	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	10,8	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	90,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	2%	3,0	88,19	-5,33	37,88
Electrical Workshop	TT-10	20%	10,3	75,27	-8,15	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,5	65,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,60	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,60	8,01	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	46,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,02	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	99,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-10,00	39,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	41,60

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

CÓPIA FIEL DO DOCUMENTO ORIGINAL
ASSINATURA SERVENTIA CARTORÁRIA
DIVISÃO JUDICIÁRIA MARÍTIMO

Operations for Damage Control - Maximum Operating Condition
Accidental Flooding of SW Tank 21 Starboard

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	100%	988	103,87	24,48	6,69	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				11805	43,82	2,76	5,53	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	11804,9	43,8	2,8	5,53	0,007	0,055
Displacement	**57481,0**	**57,844**	**0,392**	**21,85**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	35,93 m
MCTC	26,48 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

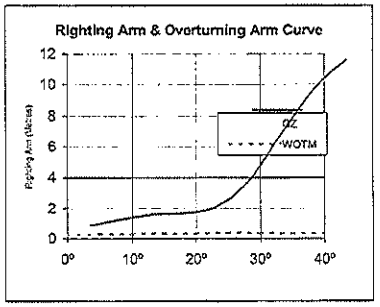
Draft Aft Perpendicular (INPUT)	32,13 m
Heel about centreline (INPUT)	6,97°
Trim About aft perp. (INPUT)	-9,70°
Heel about centreline	4,052 m
Trim About aft perp.	-19,277 m
Mean Draft Aft	32,128 m
Mean Draft @ Amidships	22,489 m
Mean Draft Forward	12,851 m

Statical Stability

Corrected VCG =	21,86 m	21,91 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,94 m	5,29 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,13 m



Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

"ESTA FOLHA FAZ PARTE DO DOCUMENTO ORIGINAL"
JOSÉ CARLOS PINHEIRO DE SOUSA
DIRETOR
DIVISÃO DE SEGURANÇA MARÍTIMO
DIVISÃO DE SEGURANÇA MARÍTIMO
Nº 965

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8S	100%	1,000	276,2	40,25	-23,01	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,51	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,6	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,89	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	36,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	28,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,5	51,05	-23,91	4,63	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,63	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,05	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-15,02	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	109,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			361,2	70,08	-3,55	39,64	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	46,80	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122305	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	6,16	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,0	78,49	-20,31	0,36	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,0	78,49	20,31	0,36	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,06	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,06	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,30	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			117,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	23,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	23,00	-26,70	27,00	0,000	0,000
Helifuel Reluel	AS6001	100%	1,000	7,9	34,35	-12,53	43,02	0,000	0,000
Helifuel Disp	AS6002	100%	1,000	7,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T69305	100%	0,870	0,2	21,66	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,01	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,000	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	6,44	40,47	0,000	0,000
Non Structural Tanks	0			32,1	66,82	6,26	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,880	467,8	92,29	-28,51	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,880	467,4	92,28	-16,03	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,880	78,7	77,27	-26,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-15,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packbg	UO-682503	100%	0,000	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,000	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,000	19,2	84,46	16,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,000	16,5	50,68	17,66	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,000	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	36,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,000	10,5	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,03	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,97	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,66	30,50	45,80	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	67,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	6,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	50,9	56,35	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,935	43,3	31,81	23,90	46,50	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	50,39	0,00	43,00	0,000	0,000
Process Content				1687,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	183,5	24,34	-15,27	8,80
P-1-10	N4,N5,N6	Y	183,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	183,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	9,50
I-1-01	E1,E2	Y	109,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y	109,6	55,26	18,57	6,22
I-1-04	E17,E18	Y	109,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	109,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	109,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y	183,5	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y	166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,9	92,44	-14,25	29,25
Optical Cable	S32	Y	11,8	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,9	71,63	-36,29	6,00
Elect. Cable	W3	Y	25,6	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,50	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,8	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	84,58	-24,00	40,02
Production Warehouse	SD-02	20%	10,0	85,69	24,00	41,12
Warehouse	SD-03	20%	30,0	85,79	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,0	40,21	8,48	40,92
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,92
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	8P	337	63,9	80,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	80,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	6382	1021,9	56,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	26,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,0	91,70	38,00	18,29
Mooring Line (Winch 6)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	26,19	-38,00	18,29
Mooring Line (Winch 8)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,01	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,20	9,85	37,88
Mech Store 1	TT-03	25%	10,0	88,40	-31,19	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,16	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,0	89,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,06	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		166,3	78,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	65,89	8,51	43,67
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,67
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,67
Crew & Stores @ MD	0		42,9	51,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-39,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,02	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	20,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,48	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	35,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		296,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DIVISÃO JUDICIÁRIA
CENTRAL

Operations for Damage Control - Maximum Operating Condition
Accidental Flooding of SW Tank 21 Starboard - CORRECTIVE ACTION

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	20%	147	16,71	-30,88	0,16	0,003	0,005
SW Ballast 3S	728,7	1,025	3%	20	16,71	30,88	0,16	0,003	0,005
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	5%	25	84,58	-31,74	0,13	0,004	0,014
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	72%	409	85,84	-36,18	4,41	0,001	0,011
SW Ballast 18S	555,2	1,025	53%	301	85,84	36,18	3,25	0,001	0,011
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	21%	166	98,59	36,27	1,38	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	99%	978	103,87	24,48	6,63	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,20	0,02	0,08

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,20	0,016	0,083
Displacement	**56503,2**	**57,048**	**-0,025**	**22,06**	**0,021**	**0,096**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,27 m
MCTC	25,24 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

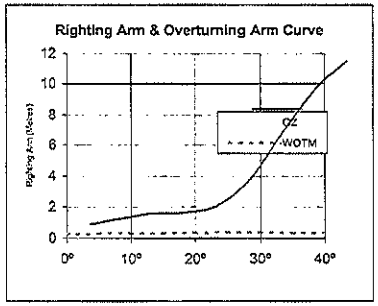
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,09 m	22,16 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,71 m	5,04 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,88 m



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DIVISÃO TRIBUNAL MARÍTIMO

Petrobras 3 oncador Field Development
Operations Manual - Volume 7
Loading Condition: Operations for Damage Control - Maximum Operating Condition

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	270,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	270,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,38	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,89	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	36,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	568,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	568,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	568,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	568,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2363,0	56,75	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,91	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	75,08	-2,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,84	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,53	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	76,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	81,04	30,07	40,06	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lubo Oil Consule 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,23	0,000	0,000
Lub Oils	0			68,2	84,90	6,16	46,50	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-20,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.L.ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,56	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,69	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	T58001	100%	1,000	7,9	34,55	-12,53	43,52	0,000	0,000
Helifuel Dep	T58002	100%	1,000	0,1	25,91	-18,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-9,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	UQ-531001/V-58202	100%	0,900	1,4	80,77	0,00	20,80	0,000	0,000
Glycol Sump Tank	UQ-123301	60%	1,060	12,1	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	T53005	50%	1,000	8,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	36,92	6,26	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-26,51	47,27	0,002	0,000
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,91	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122305	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,23	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	16,86	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,69	17,60	37,32	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	100%	0,900	1,7	61,55	17,86	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-0,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-06212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,060	13,3	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,060	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,56	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,68	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,97	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	8,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	99,8	58,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	92,56	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	20,7	20,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,61	23,90	45,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1167,0	78,65	-11,55	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	169,0	24,34	-16,27	8,80
P-1-16	N4,N5,N6	Y	163,5	24,34	16,27	8,80
P-1-09	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y	108,8	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	48,64	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,84	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,84	18,57	6,32
I-1-03	E15,E16	Y	108,8	55,26	18,57	6,22
I-1-04	E17,E18	Y	108,8	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	108,8	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quan. (M/Fld) Riser UMB0"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,6	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	108,8	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y	108,8	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y	166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,9	92,44	-14,25	29,25
Optical Cable	S32	Y	11,6	92,44	-16,00	29,25
SPARE	W1	Y	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,9	71,63	-36,29	6,00
Electr. Cable	W3	Y	25,8	62,17	-18,57	6,50
FUEL GAS - FGO Riser 8" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,50	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,6	66,25	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	0,0	84,38	-24,80	40,82
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,46	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	10,10
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	10,10
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	10,10
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	20,31	31,12	10,10
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0		3992	1021,9	56,09	6,06

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,93	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,70	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,70	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,7	57,85	1,54	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,9	93,51	9,60	37,88
Pump Store Fwd	TT-02	99%	8,9	40,28	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,0	85,07	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	86,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,03	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,59
Crew & Stores @TT	0		166,3	78,84	4,33	37,84

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	65,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,5	48,88	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,82	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	26,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	109,05	-16,00	30,08
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		296,7	52,07	5,21	43,00

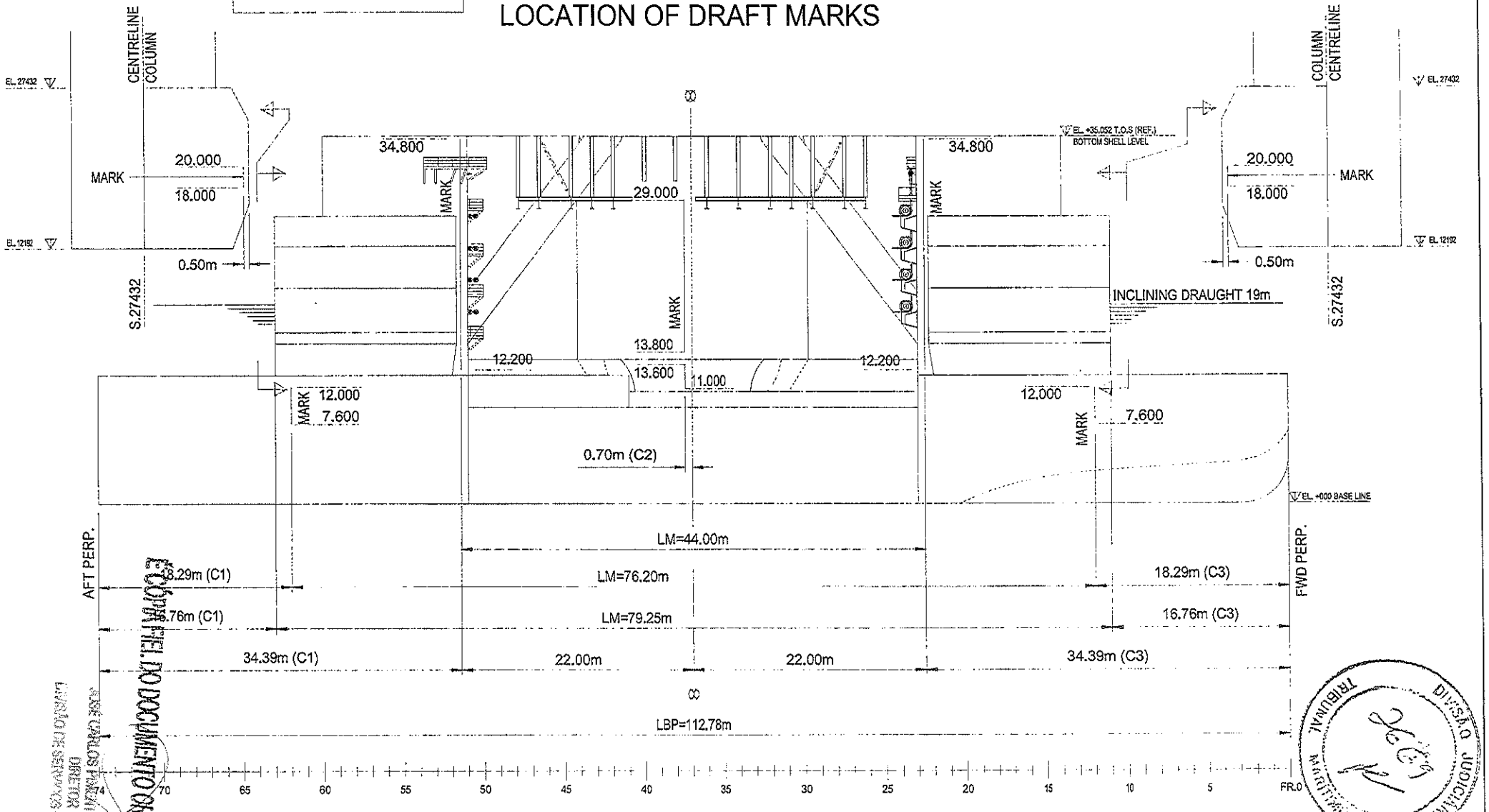
Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

NOTE:

TRANSVERSE DISTANCE BETWEEN DRAFT MARKS
FAIRLEAD BOXES = 73.676m
CAISSON = 21.950m
PONTOONS = 76.900m
COLUMNS = 66.322m

PETROBRAS - 36
LOCATION OF DRAFT MARKS



ELEVATION ON STBD SIDE LKG. INBOARD - PORT SIDE HANDED

(BOAT FENDERS AND RISER PROTECTION NET REMOVED FOR CLARITY)

SCALE 1:500

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DIRETOR
DIVISÃO DE SERVIÇOS PORTUÁRIOS
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DIVISÃO JUDICIÁRIA

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36 fls
TRIBUNAL MARÍTIMO

AMEC Process and Energy

NOBLE DENTON

P36 - RONCADOR FIELD DEVELOPMENT

Contract No: 7/15/2151

Document No. RL-3010.38-1320-974-NBD-XXX	Issue: O	Page: 1 of

Document Title:

Manual Calculation of Displacement, Trim & Stability

O	Final		26/11/99		26/11/99		26/11/99		
Issue Rev	Issue or Revision Description	Orig. By	Date	Ch'kd By	Date	App'd By	Date	App'd By	Date
		NDE						PETROMEC	

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JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

REVISION CHANGE NOTICES

Rev.	Location Changes	Brief Description of Change

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1. INTRODUCTION

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Appendix A Displacement Calculation

Appendix B Example of Stability Calculation

Appendix C Blank Displacment Trim & Stability Calculation Form

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JOSÉ CARLOS PIMENTEL GUSSÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

JUDICIAL 2673

1. INTRODUCTION

It is a requirement that an alternative method of determining the displacement, trim and stability of the unit be available to the operating personnel on board the unit.

2. REFERENCES

No	Title	Rev	Document No.
1.	RINa – Rules for the construction and classification of MODU's		Effective from January 1997
2.	Principles of Naval Architecture		SNAME
3.	Deadweight Survey & Inclining Test	O	RL-3010.38-1320-974-NBD-946
4.	Sounding Tables	O	RL-3010.38-1320-941-NBD-658-01
5.	Stability Analysis	B	RL-3010.38-1320-960-NBD-908
6.	Operations Manuals Volumes 1 thru 7		MA-3010.38-1320-915-NBD-909
7.	Capacity Tables (drawings 1 thru 13)		DE-3010.38-1320-962-NBD-367

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JOSÉ CARLOS PINHEIRO MUSSÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

3. TERMINOLOGY

All units shall be SI

Tonnes refers to metric tons

USK – Underside of Keel

Draft (m) – Draft above USK

Displacement (Tonnes) – Displacement of unit based upon sea water density =1.025 (Tonnes/cu.m)

Fpp – Forward Perpendicular located at Frame 0

App – Aft Perpendicular located at Frame 74

CL – centreline (fore-aft)

LCB (m) – Longitudinal Centre of Buoyancy measured from the Fpp

TCB (m) – Transverse Centre of Buoyancy from centreline, +ve to starboard

VCB (m) – Vertical Centre of Buoyancy from USK

LCF (m) – Longitudinal Centre of flotation from Fpp

TCF (m) – Transverse Centre of Flotation from Centreline, +ve starboard

KM_L (m) – Longitudinal Metacentric Height above USK

KM_T (m) –Transverse Metacentric Height above USK

TPC (T/cm) – Change of displacement/change of draft

MCTC (T-m/cm) – Moment to change trim by one centimetre

MCHC (T-m/cm) – Moment to change Heel by one centimetre

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JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JURÍDICA
TRIBUNAL MARÍTIMO

4. DETERMINATION OF DISPLACEMENT

Displacement consists of the following items:

1. Lightship weight with liquids in system is defined in the Deadweight Survey and Inclining Test Report (ref. 3).

Lightship	**31164.5 Tonnes**
LCG (Fr. Fpp)	**60.62 Metres**
TCG (+ve stbd)	**-0.30 Metres**
VCG (Fr. USK)	**29.67 Metres**

2. Alterations to lightship weight are recorded in the lightship modification form in Volume 2 of the Operations Manual (ref. 6.)

3. Deadweight includes:

   - Consumables (fresh water, fuel oil, lube oil, diesel etc
   - Crew, provisions & stores
   - Deck loads (laydown areas, helicopter, crane hookloads etc)
   - Process & production loads
   - Riser loads
   - Seawater ballast
   - Vertical chain tensions, chain stored onboard and anchors
   - Marine growth

The displacement should be calculated using the following method and cross checked with the draft mark readings.

Displacement From Listed Weights

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The displacement can be calculated from the capacity tables (ref. 7). The displacement should be the same as that calculated from the draft readings. The tables are shown in Appendix A.

JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SEGURANÇA DA NAVEGAÇÃO

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Procedure:

1. Determine the weight of all items onboard
2. Define the centre of gravity co-ordinate system as:
   - VCG = vertical centre of gravity from USK
   - LCG = Longitudinal centre of gravity from Frame 0
   - TCG = transverse centre of gravity from CL (+ve to stbd)
3. Sum all weights, calculate moments and calculate combined centre of gravity.
4. Use calculated displacement to extract draft and hydrostatic data from hydrostatic tables (ref. 5).

Displacement From Draft Mark Readings

This procedure is based on draft readings and for detailed instructions the user should refer to Appendix B. This is useful for cross checking the calculated displacement.

Procedure:

1. Read draft marks from scales
2. Calculate the average values
3. Calculate the drafts at the perpendiculars
4. Calculate the mean draft, heel & trim
5. Determine the displacement by interrogating the hydrostatic tables (ref. 5)

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JOSÉ CARLOS PINHEIRO CUSTÓDIO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

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5. TRIM AND STABILITY CALCULATION

Once the Displacement and Centre of Gravity are known the trim and heel can be calculated from the difference between the centre of gravity and the centre of buoyancy

$$Trim\ (m) = \frac{(LCB - LCG)}{GM_L \times LBP}$$

$$Heel\ (m) = \frac{(TCB - TCG)}{GM_T \times B}$$

With the heel and trim known the drafts at any point around the unit can be checked. When the unit has trim it may be necessary to calculate the layer correction for the Unit. The layer correction represents the additional displacement caused by the trim of the unit and is calculated by the following equation.

$$Layer\ Correction,\ t\ (m) = \frac{LCF}{LBP * Trim}$$

This layer correction should be added to draft prior to determining the displacement from the hydrostatic curves. Alternatively the layer correction can be calculated as a function of the displacement by the following equation

$$Layer\ Correction,\ t\ (tonnes) = \frac{LCF}{LBP * Trim} * TPC * 100$$

Once the displacement and centre of gravity are known the VCG must be corrected for free surface effects. From the tank tables the free surface effects for all tanks can be extracted as a function of Inertia, summed and divided by the volume displaced of the unit to give a free surface correction value.

$$fsc = \frac{\sum I^4}{\nabla}$$

Two free surface correction values are calculated, one for the transverse free surface and one for the longitudinal. The VCG can then be corrected for the free surface effect.

$$VCG_{trans} = VCG + fsc_{trans}$$

$$VCG_{long} = VCG + fsc_{long}$$

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

From these values the GM values can be calculated using the KM_L & KM_T values extracted from the hydrostatic tables.

$$GM_{T_{fluid}} = KM_T - (VCG + fsc_{trans})$$

$$GM_{L_{fluid}} = KM_L - (VCG + fsc_{long})$$

From the above values the KG can be calculated as the maximum of VCG_{trans} & VCG_{long} and compared against the allowable KG curve. The VCG margin can be calculated as:

$$VCG\ margin = Max\ Allow\ VCG - KG$$

The VCG Margin will be positive if the unit meets all the stability criteria.

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
CIMENTO DE SERVIÇOS CONTRATADA

DIVISÃO JUDICIÁRIA
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Appendix A

Determination of Displacement, Trim & Stability

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JOSÉ CARLOS PINHEIRO GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS JUDICIÁRIOS

DIVISÃO JUDICIÁRIA
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Appendix B

Determination of Displacement by Draft Readings

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

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Appendix C

Example of Displacment Trim & Stability Calculation

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DIVISÃO JUDICIÁRIA TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Sea Water Ballast	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
SW Ballast	1P								
SW Ballast	1S								
SW Ballast	2P								
SW Ballast	2S								
SW Ballast	3P								
SW Ballast	3S								
SW Ballast	4P								
SW Ballast	4S								
SW Ballast	5P								
SW Ballast	5S								
SW Ballast	6P								
SW Ballast	6S								
SW Ballast	7P								
SW Ballast	7S								
SW Ballast	11P								
SW Ballast	11S								
SW Ballast	13P								
SW Ballast	13S								
SW Ballast	16P								
SW Ballast	16S								
SW Ballast	17P								
SW Ballast	17S								
SW Ballast	18P								
SW Ballast	18S								
SW Ballast	19P								
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SW Ballast	20P								
SW Ballast	20S								
SW Ballast	21P								
SW Ballast	21S								
SW Ballast	22P								
SW Ballast	22S								
SW Ballast	23P								
SW Ballast	23S								
SW Ballast	24P								
SW Ballast	24S								
SW Ballast	25P								
SW Ballast	25S								
SW Ballast	26P								
SW Ballast	26S								
Chain Locker	1P								
Chain Locker	2P								
Chain Locker	3S								
Chain Locker	4S								
Chain Locker	5P								
Chain Locker	6P								
Chain Locker	7S								
Chain Locker	8S								
SW Ballast Total									

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

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Determination of Deadweight Loads and Unit Displacement

Drill Water Tanks (Process FW)	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Drill Water Tanks	8p								
Drill Water Tanks	8S								
Drill Water Tanks	9P								
Drill Water Tanks	9S								
Drill Water Tanks	14P								
Drill Water Tanks	14S								
Drill Water Tanks	15P								
Drill Water Tanks	15S								
Drill Water Tanks (Process FW)									

Potable Water	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Pot Water Tk	1P								
Pot Water Tk	1S								
Pot Water Day Tk									
Potable Water									

Fuel Oil	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
FO Tank	10P								
FO Tank	10S								
FO Tank	12P								
FO Tank	12S								
FO Overflow	P								
FO Overflow	S								
Fuel Oil									

Diesel Oil	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
DO Sludge	N1P								
DO Sludge	N1S								
DO Settle	N1P								
DO Day Tk	N2P								
DO Day Tk	N3S								
DOSettl	N4S								
DO Service									
Diesel Oil									

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JOSÉ CARLOS PIMENTEL GUSSÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

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Determination of Deadweight Loads and Unit Displacement

Lub Oils	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Drains Storage Tank Port	N1P								
Drains Storage Tank Stbd	N1S								
Waste Oil	N1P								
Waste Oil	N1S								
Air Compressors LO Storage	T65101								
Mooring Winch LO Storage	T65105								
Mooring Winch LO Storage	T65106								
Mooring Winch LO Storage	T65107								
Mooring Winch LO Storage	T65108								
Em. Gen. LO Storage	T65109								
WI Room LO Storage	T65110								
WI Room LO Storage	T65111								
Turbine Lube Oil Consule 'C'	UQ-122308								
Turbine Lube Oil Consule 'B'	UQ-122306								
Turbine Lube Oil Consule 'A'	UQ-122304								
Lub Oils									

Miscellaneous Tanks	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Bilge Holding Tank	P								
Bilge Holding Tank	S								
W.I.L ring Drain Tank	P								
W.I.L ring Drain Tank	S								
Deaerator Tower (Port)	C-51001								
Deaerator Tower (Starb)	C-52001								
Auxiliary Generator DO	GE-514001								
Aft Column Separator Tank	N1P								
Aft Column Separator Tank	N1S								
Miscellaneous Tanks									

Non Structural Tanks	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Fwd clmn p-tk	T05001A								
Fwd clmn p-tk	T05001B								
Fwd clmn p-tk	T05001A								
Fwd clmn p-tk	T05001B								
Helifuel Refuel	A58001								
Helifuel Disp	A58002								
Incinerator DO Day Tank	T59305								
FW Chem Dosing Tank	T55101								
FW Cooling ExansionTank	T55102								
Oily Water Separators	V-66201/V-66202								
Glycol Sump Tank	TQ-123301								
Tank Top Sump Tank	V-533605								
Non Structural Tanks									

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JOSÉ CARLOS PIMENTEL
DIRETOR
DIVISÃO DE SERVIÇOS

DIVISÃO JUDICIÁRIA
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Determination of Deadweight Loads and Unit Displacement

Crew & Stores @TT	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Pump Store Aft	TT-01								
Pump Store Fwd	TT-02								
Mech Store 1	TT-03								
Mech Store 2	TT-04								
Mech Workshop	TT-05								
Production Warehouse	TT-06								
Production Warehouse	TT-07								
Store	TT-08								
Store	TT-09								
Electrical Workshop	TT-10								
Electrical Store	TT-11								
Hydraulic Workshop	TT-12								
Central Caisson Laydown Area	TT-13								
Starboard Forward Laydown Are	TT-14								
Instrumentation Workshop	TT-15								
Crew & Stores @TT									

Crew & Stores @ SD	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Weld Shop	SD-01								
Production Warehouse	SD-02								
Warehouse	SD-03								
Open Store	SD-04								
Dry Store 1	SD-05								
Dry Store 2	SD-06								
Chilling Room / Freezer	SD-07								
Crew & Effects									
Crew & Stores @ SD									

Crew & Stores @ MD	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Paint Locker	MD-01								
Deck Locker	MD-02								
Marine Equipment Storage	MD-03								
Crew & Stores @ MD									

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JOSÉ CARLOS PIMENTEL GUEDES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

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Determination of Deadweight Loads and Unit Displacement

Helicopter & Laydown Areas	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Helicopter	HD								
Tote Tank Laydown	LD-01								
Misc Laydown 1	LD-02								
Misc Laydown 2	LD-03								
Compression A Laydown	LD-04								
Compression B Laydown	LD-05								
Compression C Laydown	LD-06								
Turbine A Laydown	LD-07								
Turbine B Laydown	LD-08								
Turbine C Laydown	LD-09								
Pig Launcher Laydown	LD-10								
Multipurpose Court	LD-11								
Helicopter & Laydown Areas									

Process Content	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Oil Separation - Train A	UQ-122301								
Oil Separation - Train B	UQ-122302								
Oil Separation - Heating	UQ-122303								
Production Caisson	TD-533601								
Turbine Cooling Water	UQ-122308								
Turbine Cooling Water	UQ-122306								
Turbine Cooling Water	UQ-122304								
Gas/Cond. Chem. Inj Pkge	UQ-682503								
Oil Chemical Injection (Skid 2)	UQ-682501-02								
Sea Water Chemical Injection	UQ-682502								
Oil Chemical Injection (Skid 1)	UQ-682501-01								
Chemical Injtn Package (Water Inj)	A42001								
Chem Injection Package (Prod)	A42002								
Heating Med Exp Vessel	V-512501								
Cooling Med Exp Vessel	V-512401								
Skim Pile Matrix Separator	V-66212								
Glycol Regeneration Package	UQ-123302								
TEG Contactor Towers	UQ-123301								
Safety Gas KO Drum Package	V-122301								
Drains Treatment Package	A45001								
Fuel Gas Treatment Package	UQ-513501								
LP KO Drum Package + Pumps	UQ-541202								
Booster Comp Process Pkg	A30003								
Caisson Pumps Antifouling Pkg	UQ-512101								
Seawater Supply Pumps contents	B-511102A/B/C								
Water Injection System (inc Piping)	UQ-125101								
Process Piping & Valves									
HP Flare KO Drum Skid	A43001								
Cooling Medium Package	UQ-512401-01								
Heating Medium Package & Piping	UQ-512501-01								
Process Gas Module 'C'	UQ-122309								
Process Gas Module 'B'	UQ-122307								
Process Gas Module 'A'	UQ-122305								
Industrial Water System Piping									
Process Content									

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JOSÉ CARLOS [illegible]

DIVISÃO [illegible]

DIVISÃO TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Vertical Mooring Forces	ID	Line Tension (M.T)	Top Angle (Deg)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Mooring Line (Winch 1)	P8								
Mooring Line (Winch 2)	P7								
Mooring Line (Winch 3)	P6								
Mooring Line (Winch 4)	P5								
Mooring Line (Winch 5)	P4								
Mooring Line (Winch 6)	P3								
Mooring Line (Winch 7)	P2								
Mooring Line (Winch 8)	P1								
Mooring Line (Winch 9)	S1								
Mooring Line (Winch 10)	S2								
Mooring Line (Winch 11)	S3								
Mooring Line (Winch 12)	S4								
Mooring Line (Winch 13)	S5								
Mooring Line (Winch 14)	S6								
Mooring Line (Winch 15)	S7								
Mooring Line (Winch 16)	S8								
Vertical Mooring Forces									

Chain Lockers	ID	Chain Onboard (m)	Weight per metre kg/m	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
CL - Port Aft (Winch 1)	9P								
CL - Port Aft (Winch 2)	1aP								
CL - Port Aft (Winch 3)	5P								
CL - Port Aft (Winch 4)	1bP								
CL - Port Fwd (Winch 5)	2aP								
CL - Port Fwd (Winch 6)	6P								
CL - Port Fwd (Winch 7)	2bP								
CL - Port Fwd (Winch 8)	10P								
CL - Stbd Fwd (Winch 9)	11S								
CL - Stbd Fwd (Winch 10)	3aS								
CL - Stbd Fwd (Winch 11)	7S								
CL - Stbd Fwd (Winch 12)	3bS								
CL - Stbd Aft (Winch 13)	4aS								
CL - Stbd Aft (Winch 14)	8S								
CL - Stbd Aft (Winch 15)	4bS								
CL - Stbd Aft (Winch 16)	12S								
Chain Lockers									

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JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
DIVISÃO DE SEGURANÇA DA NAVEGAÇÃO

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Connected Risers	ID			Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
P-1-10	N1,N2,N3								
P-1-16	N4,N5,N6								
P-1-08	N7,N8,N9								
FUTURE	N10,N11								
I-1-01	E1,E2								
P-1-09	E3,E4,E5								
P-1-13	E6,E7,E8								
LOC A	E9,E10,E11								
P-1-04	E12,E13,E14								
I-1-03	E15,E16								
I-1-04	E17,E18								
P-1-07	E19,E20,E21								
P-1-18	E22,E23,E24								
P-1-12	E25,E26,E27								
P-1-19	E28,E29,E30								
P-1-01	E31,E32,E33								
I-1-05	S1,S2								
P-1-05	S3,S4,S5								
P-1-11	S6,S7,S8								
P-1-17	S9,S10,S11								
P-1-06 (M/Fld) Riser 6"	S12								
P-1-14 (M/Fld) Riser 6"	S13								
P-1-03 (M/Fld) Riser 6"	S14								
Inj. Quim. (M/Fld) Riser UMB6"	S15								
Service Manifold Riser 4"	S16								
Control Umb (M/F) Riser UMB12	S17								
Gas Lift Riser 6"	S18								
P-1-20 (M/Fld) Riser 6"	S19								
P-1-02 (M/Fld) Riser 6"	S20								
P-1-15 (M/Fld) Riser 6"	S21								
I-1-02	S22,S23								
FUTURE (WI) F1/I1	S24,S25								
SPARE (F1 / LOC H))	S26,S27,S28								
SPARE (RJS-513)	S29,S30,S31								
Optical Cable	S32								
SPARE	W1								
SCR-GAS Riser 10" RG-02	RG-2								
Electr. Cable	W3								
FUEL GAS - FSO Riser 6" RG-(	W4								
OIL C - EXPORT Riser 10" RO-(	W5								
OIL B - EXPORT Riser 10" RO-(	W6								
SCR - OIL EXP. Riser 10" RO-0	RO-1								
Connected Risers									

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Miscellaneous Items	ID			Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Anchors on Racks (4 off)									
Inclining Weights									
Inc Weight Cribbing									
Temporary Stores For Brazil									
Miscellaneous Items									

Void Spaces	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
VOID SPACE	N.27P								
VOID SPACE	N.27S								
VOID SPACE	N.28P								
VOID SPACE	N.28S								
VOID SPACE	N.29P								
VOID SPACE	N.29S								
VOID SPACE	N.29aP								
VOID SPACE	N.29aS								
VOID SPACE	N.30P								
VOID SPACE	N.30S								
VOID SPACE	N.30aP								
VOID SPACE	N.30aS								
VOID SPACE	N.31P								
VOID SPACE	N.31S								
VOID SPACE	N.32P1								
VOID SPACE	N.32S1								
VOID SPACE	N.32P2								
VOID SPACE	N.32S2								
VOID SPACE	N.32P3								
VOID SPACE	N.32S3								
VOID SPACE	N.33P1								
VOID SPACE	N.33S1								
VOID SPACE	N.33P2								
VOID SPACE	N.33S2								
VOID SPACE	N.34								
VOID SPACE	N.35								
VOID SPACE	N.36								
VOID SPACE	N.37P								
VOID SPACE	N.37S								
VOID SPACE	N.38P								
VOID SPACE	N.38S								
VOID SPACE	N.39								
VOID SPACE	N.40								
VOID SPACE	N.41								
VOID SPACE	N.42P								
VOID SPACE	N.42S								
VOID SPACE	N.43								
VOID SPACE	N.44								
VOID SPACE	N.45P								

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Void Spaces	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
VOID SPACE	N.45S								
VOID SPACE	N.45aP								
VOID SPACE	N.45aS								
VOID SPACE	N.46P								
VOID SPACE	N.46S								
VOID SPACE	N.46aP								
VOID SPACE	N.46aS								
VOID SPACE	N.50P								
VOID SPACE	N.50S								
VOID SPACE	N.51P								
VOID SPACE	N.51S								
VOID SPACE	N.52P								
VOID SPACE	N.52S								
VOID SPACE	N.53P								
VOID SPACE	N.53S								
VOID SPACE	N.54								
VOID SPACE	N.55								
VOID SPACE	N.56								
VOID SPACE	N.57								
VOID SPACE	N.58S								
VOID SPACE	N.58P								
VOID SPACE	N.59S								
VOID SPACE	N.59P								
VOID SPACE	N.60								
VOID SPACE	N.61P								
VOID SPACE	N.61S								
VOID SPACE	N.62S								
VOID SPACE	N.62P								
VOID SPACE	N.63S								
VOID SPACE	N.63P								
VOID SPACE	N.64S								
VOID SPACE	N.64P								
VOID SPACE	N.65S								
VOID SPACE	N.65P								
CHAIN LOCKER	9P								
CHAIN LOCKER	10P								
CHAIN LOCKER	11S								
CHAIN LOCKER	12S								
Void Spaces									

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DIRETOR
MA-3010.38-1320-915-NBd-909-07

JUDICIÁRIA
N.º 269
TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Determination of Unit Displacment

Displacement			Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Inclined Lightship	-	-	31164,5	60,62	-0,30	29,67	0,00	0,00
Drill Water Tanks (Process FW)								
Potable Water								
Fuel Oil								
Diesel Oil								
Lub Oils								
Miscellaneous Tanks								
Non Structural Tanks								
Crew & Stores @TT								
Crew & Stores @ SD								
Crew & Stores @ MD								
Helicopter & Laydown Areas								
Process Content								
Vertical Mooring Forces								
Chiain Lockers								
Connected Risers								
Miscellaneous Items								
Void Spaces								
SW Ballast								
Displacement								

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JOSÉ CARLOS PEREIRA EL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

Determination of Deadweight Loads and Unit Displacement

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Calculation of Loading Condition			
Hydrostatic Data			Formula & Notes
Displacement	(tonnes)		
Mean Draft from USK	(m)		T, From Hydrostatics+E7
Foreward Draft at Pontoo	(m)		Fore Draft = T+Trim*LCF/LBP
Aft Draft at Pontoon	(m)		Aft Draft = T - Trim*(LBP-LCF)/LBP
Trim	(m)		Trim = (LCB-LCG)/(GML*LBP)
Trim Angle	(deg)		Trim Angle = arctan (trim/LBP)
Heel	(m)		Heel = (TCB-TCG)/(GMT*Breadth)
Heeling Angle	(deg)		Heel Angle = arctan(heel/breadth)
LCB	(m)		From Hydrostatics
LCF	(m)		From Hydrostatics
TCF	(m)		From Hydrostatics
Coordinates of COG			
LCG	(m)		From Hydrostatics
TCG	(m)		From Hydrostatics
VCG	(m)		From Hydrostatics
Statical Stability			
KML	(m)		From Hydrostatics
KMT	(m)		From Hydrostatics
VCG	(m)		
FSC (trans)	(m)		FSC = Total Transverse FS Inertia / ∇
FSC (long)	(m)		FSC = Total Longitudinal FS Inertia / ∇
VCG + FSC(trans)	(m)		
VCG + FSC (long)	(m)		
GMT	(m)		GMT = KMT - (VCG+FSC(trans))
GML	(m)		GML = KML - (VCG+FSC(long))
VCG Margin			
Max Allowable VCG	(m)		From Max Allowable VCG Curve
KG	(m)		Is max FSC VCG value
VCG Margin	(m)		VCG Margin = Max Allow VCG - KG

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DIVISÃO JUDICIÁRIA
JUÍZO FEDERAL MARÍTIMO
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Determination of Deadweight Loads and Unit Displacement

Sea Water Ballast	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
SW Ballast	1P	886,7	1,025	899,8	9,50	-24,47	6,72	0,00	0,00
SW Ballast	1S	886,7	1,025	899,8	9,50	24,47	6,72	0,00	0,00
SW Ballast	2P	877,6	1,025	890,5	6,78	-30,71	6,16	0,00	0,00
SW Ballast	2S	877,6	1,025	890,5	6,78	30,71	6,16	0,00	0,00
SW Ballast	3P	728,7	1,025	739,4	16,71	-30,85	6,10	0,00	0,00
SW Ballast	3S	728,7	1,025	739,4	16,71	30,88	6,10	0,00	0,00
SW Ballast	4P	798,3	1,025	810,1	13,73	-36,66	6,15	0,00	0,00
SW Ballast	4S	798,3	1,025	810,1	13,73	36,66	6,15	0,00	0,00
SW Ballast	5P	256,6	1,025	260,3	27,71	-22,82	2,93	0,00	0,00
SW Ballast	5S	256,6	1,025	260,3	27,71	22,82	2,93	0,00	0,00
SW Ballast	6P	523,9	1,025	531,6	28,19	-31,74	5,21	0,00	0,00
SW Ballast	6S	523,9	1,025	531,6	28,19	31,74	5,21	0,00	0,00
SW Ballast	7P	555,2	1,025	563,4	26,94	-36,18	6,06	0,00	0,00
SW Ballast	7S	555,2	1,025	563,4	26,94	36,18	6,06	0,00	0,00
SW Ballast	11P	644,7	1,025	654,2	51,06	-30,81	4,53	0,00	0,00
SW Ballast	11S	644,7	1,025	654,2	51,06	30,81	4,53	0,00	0,00
SW Ballast	13P	644,7	1,025	654,2	61,72	-30,81	4,53	0,00	0,00
SW Ballast	13S	644,7	1,025	654,2	61,72	30,81	4,53	0,00	0,00
SW Ballast	16P	249,7	1,025	2,6	85,17	-22,72	0,02	0,00	0,00
SW Ballast	16S	249,7	1,025	257,5	85,17	22,72	2,61	0,00	0,00
SW Ballast	17P	523,9	1,025	267,5	84,58	-31,74	1,95	0,00	0,02
SW Ballast	17S	523,9	1,025	5,4	84,58	31,74	0,03	0,00	0,00
SW Ballast	18P	555,2	1,025	563,4	85,84	-36,18	6,06	0,00	0,00
SW Ballast	18S	555,2	1,025	563,4	85,84	36,18	6,06	0,00	0,00
SW Ballast	19P	728,8	1,025	739,5	96,07	-30,88	6,10	0,00	0,00
SW Ballast	19S	728,8	1,025	739,5	96,07	30,88	6,10	0,00	0,00
SW Ballast	20P	768,2	1,025	779,5	98,66	-36,37	6,11	0,00	0,00
SW Ballast	20S	768,2	1,025	779,5	98,59	36,27	6,11	0,00	0,00
SW Ballast	21P	963,7	1,025	977,9	103,87	-24,48	6,63	0,00	0,00
SW Ballast	21S	963,7	1,025	977,9	103,87	24,48	6,63	0,00	0,00
SW Ballast	22P	1067,3	1,025	0,0	106,75	-31,15	0,00	0,00	0,00
SW Ballast	22S	1067,3	1,025	0,0	106,75	31,15	0,00	0,00	0,00
SW Ballast	23P	665,6	1,025	0,0	28,02	-27,55	0,00	0,00	0,00
SW Ballast	23S	665,6	1,025	0,0	28,02	27,55	0,00	0,00	0,00
SW Ballast	24P	980,8	1,025	0,0	28,00	-26,33	0,00	0,00	0,00
SW Ballast	24S	980,8	1,025	0,0	28,00	26,33	0,00	0,00	0,00
SW Ballast	25P	665,6	1,025	0,0	84,76	-27,55	0,00	0,00	0,00
SW Ballast	25S	665,6	1,025	0,0	84,76	27,55	0,00	0,00	0,00
SW Ballast	26P	980,8	1,025	0,0	84,77	-26,33	0,00	0,00	0,00
SW Ballast	26S	980,8	1,025	0,0	84,77	26,33	0,00	0,00	0,00
Chain Locker	1P	363,1	1,025	0,0	84,58	-30,41	0,00	0,00	0,00
Chain Locker	2P	363,1	1,025	0,0	28,20	-30,41	0,00	0,00	0,00
Chain Locker	3S	363,1	1,025	0,0	28,20	30,41	0,00	0,00	0,00
Chain Locker	4S	363,1	1,025	0,0	84,58	30,41	0,00	0,00	0,00
Chain Locker	5P	52,2	1,025	0,0	86,47	-31,12	0,00	0,00	0,00
Chain Locker	6P	52,2	1,025	0,0	26,31	-31,12	0,00	0,00	0,00
Chain Locker	7S	52,2	1,025	0,0	26,31	31,12	0,00	0,00	0,00
Chain Locker	8S	52,2	1,025	0,0	86,47	31,12	0,00	0,00	0,00
SW Ballast Total				18640,5	50,30	-0,16	5,68	0,00	0,03

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JOSÉ CARLOS PEREIRA GUIMARÃES
DIRETOR
SECRETARIA JUDICIÁRIA

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO
36 94

Determination of Deadweight Loads and Unit Displacement

Drill Water Tanks (Process FW)	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Drill Water Tanks	8p	276,5	1,000	0,0	40,25	-23,31	0,00	0,00	0,00
Drill Water Tanks	8S	276,5	1,000	0,0	40,25	23,31	0,00	0,00	0,00
Drill Water Tanks	9P	248,7	1,000	0,0	40,53	-31,35	0,00	0,00	0,00
Drill Water Tanks	9S	248,7	1,000	0,0	40,53	31,35	0,00	0,00	0,00
Drill Water Tanks	14P	272,3	1,000	0,0	72,39	-24,38	0,00	0,00	0,00
Drill Water Tanks	14S	272,3	1,000	0,0	72,39	24,38	0,00	0,00	0,00
Drill Water Tanks	15P	260,3	1,000	0,0	72,34	-30,45	0,00	0,00	0,00
Drill Water Tanks	15S	260,3	1,000	0,0	72,34	30,45	0,00	0,00	0,00
Drill Water Tanks (Process FW)		2115,5		0,0	0,00	0,00	0,00	0,00	0,00

Potable Water	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Pot Water Tk	1P	198,0	1,000	157,1	84,58	-29,99	25,33	0,00	0,01
Pot Water Tk	1S	198,0	1,000	192,0	84,58	29,99	25,88	0,00	0,00
Pot Water Day Tk		15,2	1,000	15,1	78,87	4,98	38,08	0,00	0,00
Potable Water		403,1		364,2	84,34	3,08	26,15	0,00	0,01

Fuel Oil	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
FO Tank	10P	611,3	0,960	0,0	51,05	-23,91	0,00	0,00	0,00
FO Tank	10S	611,3	0,960	0,0	51,05	23,91	0,00	0,00	0,00
FO Tank	12P	614,7	0,960	0,0	61,72	-23,86	0,00	0,00	0,00
FO Tank	12S	614,7	0,960	0,0	61,72	23,92	0,00	0,00	0,00
FO Overflow	P	17,1	0,960	0,0	78,94	-17,79	0,00	0,00	0,00
FO Overflow	S	15,8	0,960	0,0	78,87	22,86	0,00	0,00	0,00
Fuel Oil		2452,0		0,0	0,00	0,00	0,00	0,00	0,00

Diesel Oil	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
DO Sludge	N1P	4,1	0,870	0,0	67,61	-15,62	0,00	0,00	0,00
DO Sludge	N1S	4,1	0,870	0,0	78,58	10,10	0,00	0,00	0,00
DO Settle	N1P	121,2	0,870	104,4	74,52	-13,90	39,37	0,00	0,00
DO Day Tk	N2P	127,2	0,870	109,6	74,60	-17,44	39,35	0,00	0,00
DO Day Tk	N3S	84,5	0,870	59,6	82,01	15,62	37,81	0,00	0,00
DOSettl	N4S	84,5	0,870	72,8	79,15	15,62	38,08	0,00	0,00
DO Service		12,9	0,870	11,1	48,01	-21,15	47,00	0,00	0,00
Diesel Oil		341,2		357,4	75,92	-4,28	39,08	0,01	0,00

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS JUDICIAIS

Determination of Deadweight Loads and Unit Displacement

Lub Oils	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Drains Storage Tank Port	N1P	451,4	0,900	0,0	84,85	-22,94	0,00	0,00	0,00
Drains Storage Tank Stbd	N1S	451,4	0,900	0,0	84,85	22,94	0,00	0,00	0,00
Waste Oil	N1P	19,2	1,000	0,0	80,72	-24,55	0,00	0,00	0,00
Waste Oil	N1S	19,2	1,000	0,0	80,72	24,55	0,00	0,00	0,00
Air Compressors LO Storage	T65101	0,9	0,9	0,8	78,47	-1,35	40,72	0,00	0,00
Mooring Winch LO Storage	T65105	0,3	0,9	0,3	78,17	-30,93	40,77	0,00	0,00
Mooring Winch LO Storage	T65106	0,3	0,9	0,3	34,65	-30,07	40,87	0,00	0,00
Mooring Winch LO Storage	T65107	0,3	0,9	0,3	23,33	28,10	40,87	0,00	0,00
Mooring Winch LO Storage	T65108	0,3	0,9	0,3	91,04	30,07	40,96	0,00	0,00
Em. Gen. LO Storage	T65109	0,6	0,9	0,5	98,60	-22,17	45,00	0,00	0,00
WI Room LO Storage	T65110	0,9	0,9	0,8	35,87	-22,20	3,43	0,00	0,00
WI Room LO Storage	T65111	0,9	0,9	0,8	35,87	22,20	3,44	0,00	0,00
Turbine Lube Oil Consule 'C'	UQ-122308	16,7	0,9	0,0	89,67	24,55	49,23	0,00	0,00
Turbine Lube Oil Consule 'B'	UQ-122306	16,7	0,9	0,0	89,68	9,55	49,24	0,00	0,00
Turbine Lube Oil Consule 'A'	UQ-122304	16,7	0,9	0,0	89,71	-5,45	49,25	0,00	0,00
Lub Oils		995,7		4,1	51,86	-3,14	26,73	0,00	0,00

Miscellaneous Tanks	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Bilge Holding Tank	P	5,27	1,000	0,0	78,49	-26,31	0,00	0,00	0,00
Bilge Holding Tank	S	5,27	1,000	0,0	78,49	26,31	0,00	0,00	0,00
W.I.L ring Drain Tank	P	2,80	1,000	0,0	77,13	-30,77	1,22	0,00	0,00
W.I.L ring Drain Tank	S	2,80	1,000	0,0	77,13	30,77	1,22	0,00	0,00
Deaerator Tower (Port)	C-51001	37,96	1,000	0,0	85,08	-23,73	27,60	0,00	0,00
Deaerator Tower (Starb)	C-52001	37,96	1,000	0,0	85,08	23,73	27,60	0,00	0,00
Auxiliary Generator DO	GE-514001	1,15	0,870	1,0	54,39	-12,50	53,00	0,00	0,00
Aft Column Separator Tank	N1P	13,80	1,000	0,0	79,72	-26,29	35,10	0,00	0,00
Aft Column Separator Tank	N1S	13,80	1,000	0,0	79,72	26,29	35,10	0,00	0,00
Miscellaneous Tanks		120,8		1,0	54,39	-12,50	53,00	0,00	0,00

Non Structural Tanks	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Fwd clmn p-tk	T05001A	83,5	1,316	0,0	25,00	26,70	27,00	0,00	0,00
Fwd clmn p-tk	T05001B	83,5	1,316	0,0	28,15	24,23	27,00	0,00	0,00
Fwd clmn p-tk	T05001A	83,5	1,316	0,0	28,15	-24,23	27,00	0,00	0,00
Fwd clmn p-tk	T05001B	83,5	1,316	0,0	25,00	-26,70	27,00	0,00	0,00
Helifuel Refuel	A58001	7,9	1,000	0,0	34,55	-12,53	43,92	0,00	0,00
Helifuel Disp	A58002	0,1	1,000	0,0	25,91	-19,28	45,10	0,00	0,00
Incinerator DO Day Tank	T59305	0,2	0,870	0,2	21,66	26,76	43,94	0,00	0,00
FW Chem Dosing Tank	T55101	2,0	1,000	2,0	63,02	-5,30	52,91	0,00	0,00
FW Cooling ExansionTank	T55102	0,5	1,000	0,5	64,97	-6,20	52,91	0,00	0,00
Oily Water Separators	V-66201/V-66202	1,6	0,900	1,4	80,77	0,00	29,80	0,00	0,00
Glycol Sump Tank	TQ-123301	18,6	1,080	0,0	55,23	21,53	37,08	0,00	0,00
Tank Top Sump Tank	V-533605	16,0	1,000	0,0	76,22	6,44	46,47	0,00	0,00
Non Structural Tanks		380,9		4,1	67,30	-2,04	44,58	0,00	0,00

JUDICIÁRIA MARÍTIMO

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

TRIBUNAL MARITIMO 2690

Determination of Deadweight Loads and Unit Displacement

Crew & Stores @TT	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Pump Store Aft	TT-01	6,1	13,0	0,1	63,51	9,85	37,88	0,00	0,00
Pump Store Fwd	TT-02	6,1	13,0	0,1	49,26	9,85	37,88	0,00	0,00
Mech Store 1	TT-03	32,1	13,0	1,7	88,40	-31,10	37,88	0,00	0,00
Mech Store 2	TT-04	23,4	13,0	1,9	81,40	-32,18	37,88	0,00	0,00
Mech Workshop	TT-05	75,1	13,0	2,0	85,97	-23,86	37,58	0,00	0,00
Production Warehouse	TT-06	38,8	13,0	3,1	88,61	24,15	37,58	0,00	0,00
Production Warehouse	TT-07	39,5	13,0	1,0	80,51	24,00	37,58	0,00	0,00
Store	TT-08	61,6	13,0	0,8	82,90	31,44	37,88	0,00	0,00
Store	TT-09	45,5	13,0	0,6	69,19	-5,33	37,88	0,00	0,00
Electrical Workshop	TT-10	24,6	13,0	0,5	75,27	-8,16	37,78	0,00	0,00
Electrical Store	TT-11	32,8	13,0	0,7	75,27	-1,02	37,78	0,00	0,00
Hydraulic Workshop	TT-12	23,5	13,0	0,0	75,37	4,83	37,68	0,00	0,00
Central Caisson Laydown Area	TT-13	6,0	9,0	0,0	61,89	-2,75	37,58	0,00	0,00
Starboard Forward Laydown Are	TT-14	21,6	9,0	0,0	37,67	22,62	37,58	0,00	0,00
Instrumentation Workshop	TT-15	46,3	13,0	0,6	73,19	23,30	37,58	0,00	0,00
Crew & Stores @TT		482,8		13,0	82,95	-2,06	37,72	0,00	0,00

Crew & Stores @ SD	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Weld Shop	SD-01	94,1	13,0	1,2	84,58	-24,00	40,62	0,00	0,00
Production Warehouse	SD-02	39,0	13,0	2,6	88,60	24,00	41,12	0,00	0,00
Warehouse	SD-03	113,1	13,0	6,0	85,73	-15,62	41,12	0,00	0,00
Open Store	SD-04	81,8	13,0	0,0	69,43	-0,23	41,02	0,00	0,00
Dry Store 1	SD-05	45,1	13,0	2,4	40,21	8,48	40,52	0,00	0,00
Dry Store 2	SD-06	34,6	13,0	1,8	37,21	15,03	40,52	0,00	0,00
Chilling Room / Freezer	SD-07	46,7	13,0	2,5	42,47	15,03	41,02	0,00	0,00
Crew & Effects				5,1	45,72	0,00	41,82	0,00	0,00
Crew & Stores @ SD		454,4		21,6	62,47	1,09	41,13	0,00	0,00

Crew & Stores @ MD	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Paint Locker	MD-01	21,0	13	2,8	65,89	8,51	43,87	0,00	0,00
Deck Locker	MD-02	21,0	13	1,4	48,89	8,51	43,87	0,00	0,00
Marine Equipment Storage	MD-03	34,7	13	2,3	48,89	8,51	43,87	0,00	0,00
Crew & Stores @ MD		76,7		6,5	56,20	8,51	43,87	0,00	0,00

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JOSÉ CARLOS PINATEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Helicopter & Laydown Areas	ID	Area (m2)	Load Cap. (kN/m2)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Helicopter	HD	623,1		0,0	21,10	-35,80	48,90		
Tote Tank Laydown	LD-01	57,3	13,0	0,0	37,14	10,07	43,00		
Misc Laydown 1	LD-02	56,6	13,0	0,0	38,55	-3,52	43,00		
Misc Laydown 2	LD-03	40,2	13,0	0,0	39,27	-11,28	43,00		
Compression A Laydown	LD-04	44,6	13,0	0,0	95,42	0,43	43,00		
Compression B Laydown	LD-05	42,7	13,0	0,0	95,44	15,43	43,00		
Compression C Laydown	LD-06	48,1	13,0	0,0	95,44	30,80	43,00		
Turbine A Laydown	LD-07	15,0	13,0	0,0	73,34	-5,46	43,00		
Turbine B Laydown	LD-08	15,0	13,0	0,0	73,34	9,54	43,00		
Turbine C Laydown	LD-09	15,0	13,0	0,0	73,34	24,54	43,00		
Pig Launcher Laydown	LD-10	50,9	13,0	8,1	106,05	-19,00	36,58		
Multipurpose Court	LD-11	160,0	13,0	0,0	30,37	1,29	43,00		
Helicopter & Laydown Areas				8,1	106,05	-19,00	36,58	0,00	0,00

Process Content	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Oil Separation - Train A	UQ-122301	550,9	0,850	0,0	92,29	-28,51	47,27	0,00	0,00
Oil Separation - Train B	UQ-122302	550,5	0,850	0,0	92,28	-18,53	47,34	0,00	0,00
Oil Separation - Heating	UQ-122303	92,7	0,850	0,0	77,27	-20,01	47,49		
Production Caisson	TD-533601	52,2	0,900	0,0	64,74	-16,71	19,81		
Turbine Cooling Water	UQ-122308	5,6	1,000	0,0	89,67	24,55	49,23		
Turbine Cooling Water	UQ-122306	5,6	1,000	0,0	89,68	9,55	49,24		
Turbine Cooling Water	UQ-122304	5,6	1,000	0,0	89,71	-5,45	49,25		
Gas/Cond. Chem. Inj Pkge	UQ-682503	42,8	0,900	0,0	58,48	13,14	44,98		
Oil Chemical Injection (Skid 2)	UQ-682501-02	31,5	0,900	0,0	61,79	13,04	37,74		
Sea Water Chemical Injection	UQ-682502	21,3	0,900	0,0	54,46	18,66	37,36		
Oil Chemical Injection (Skid 1)	UQ-682501-01	18,3	0,900	0,0	50,68	17,60	37,52		
Chemical Injtn Package (Water Inj)	A42001	1,9	0,900	0,0	61,56	17,80	38,33		
Chem Injection Package (Prod)	A42002	1,7	0,900	0,0	55,56	13,40	38,33		
Heating Med Exp Vessel	V-512501	20,3	0,935	0,0	48,12	2,33	63,78	0,00	0,00
Cooling Med Exp Vessel	V-512401	6,8	1,000	0,0	48,10	-3,22	63,78	0,00	0,00
Skim Pile Matrix Separator	V-66212	11,8	0,900	0,0	59,51	-13,30	43,92		
Glycol Regeneration Package	UQ-123302	12,9	1,080	0,0	57,13	16,93	45,38		
TEG Contactor Towers	UQ-123301	7,7	1,080	0,0	57,44	12,87	48,38		
Safety Gas KO Drum Package	V-122301	14,9	0,975	0,0	62,88	30,50	45,96		
Drains Treatment Package	A45001	14,4	1,000	0,0	97,69	14,72	39,08		
Fuel Gas Treatment Package	UQ-513501	9,4	1,000	0,0	97,93	23,08	38,55		
LP KO Drum Package + Pumps	UQ-541202	9,6	0,820	0,0	63,87	-16,36	44,21		
Booster Comp Process Pkg	A30003	6,4	1,000	0,0	56,94	22,68	46,10		
Caisson Pumps Antifouling Pkg	UQ-512101	8,0	1,025	0,0	32,98	15,20	44,42		
Seawater Supply Pumps contents	B-511102A/B/C	58,5	1,025	0,0	56,39	5,25	20,00		
Water Injection System (inc Piping)	UQ-125101	48,1	1,025	0,0	74,90	0,00	17,67		
Process Piping & Valves		121,3	0,860	0,0	60,46	-0,54	40,07		
HP Flare KO Drum Skid	A43001	10,2	0,820	0,0	59,66	-21,60	44,79		
Cooling Medium Package	UQ-512401-01	26,8	1,000	0,0	26,81	17,04	48,23		
Heating Medium Package & Piping	UQ-512501-01	44,9	0,965	0,0	31,81	23,90	46,56		
Process Gas Module 'C'	UQ-122309	12,3	0,650	0,0	79,28	31,85	48,86	0,00	0,00
Process Gas Module 'B'	UQ-122307	12,3	0,650	0,0	79,28	16,85	48,86	0,00	0,00
Process Gas Module 'A'	UQ-122305	12,3	0,650	0,0	79,28	2,06	48,86	0,00	0,00
Industrial Water System Piping		49,1	1,000	0,0	56,39	0,00	43,00		
Process Content				0,0	0,00	0,00	0,00	0,00	0,00

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JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

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Determination of Deadweight Loads and Unit Displacement

Vertical Mooring Forces	ID	Line Tension (M.T)	Top Angle (Deg)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Mooring Line (Winch 1)	P8	3,8	90,00	3,8	91,70	-38,00	18,29		
Mooring Line (Winch 2)	P7	0,0	90,00	0,0	88,14	-38,00	18,29		
Mooring Line (Winch 3)	P6	0,0	90,00	0,0	84,58	-38,00	18,29		
Mooring Line (Winch 4)	P5	0,0	90,00	0,0	81,02	-38,00	18,29		
Mooring Line (Winch 5)	P4	3,8	90,00	3,8	35,31	-38,00	18,29		
Mooring Line (Winch 6)	P3	0,0	90,00	0,0	31,75	-38,00	18,29		
Mooring Line (Winch 7)	P2	0,0	90,00	0,0	28,19	-38,00	18,29		
Mooring Line (Winch 8)	P1	0,0	90,00	0,0	24,63	-38,00	18,29		
Mooring Line (Winch 9)	S1	0,0	90,00	0,0	24,63	38,00	18,29		
Mooring Line (Winch 10)	S2	0,0	90,00	0,0	28,19	38,00	18,29		
Mooring Line (Winch 11)	S3	0,0	90,00	0,0	31,75	38,00	18,29		
Mooring Line (Winch 12)	S4	3,8	90,00	3,8	35,31	38,00	18,29		
Mooring Line (Winch 13)	S5	0,0	90,00	0,0	81,02	38,00	18,29		
Mooring Line (Winch 14)	S6	0,0	90,00	0,0	84,58	38,00	18,29		
Mooring Line (Winch 15)	S7	0,0	90,00	0,0	88,14	38,00	18,29		
Mooring Line (Winch 16)	S8	3,8	90,00	3,8	91,70	38,00	18,29		
Vertical Mooring Forces				15,1	63,51	0,00	18,29	0,00	0,00

Chain Lockers	ID	Chain Onboard (m)	Weight per metre kg/m	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
CL - Port Aft (Winch 1)	9P	479	180,5	86,5	91,05	-33,48	13,72		
CL - Port Aft (Winch 2)	1aP	0	180,5	0,0	87,52	-30,50	4,60		
CL - Port Aft (Winch 3)	5P	0	180,5	0,0	86,47	-31,12	16,19		
CL - Port Aft (Winch 4)	1bP	0	180,5	0,0	81,65	-30,50	4,60		
CL - Port Fwd (Winch 5)	2aP	479	180,5	86,5	31,13	-30,50	4,60		
CL - Port Fwd (Winch 6)	6P	451	180,5	81,4	26,31	-31,12	16,19		
CL - Port Fwd (Winch 7)	2bP	379	180,5	68,4	25,26	-30,50	4,60		
CL - Port Fwd (Winch 8)	10P	401	180,5	72,4	21,73	-33,48	13,72		
CL - Stbd Fwd (Winch 9)	11S	0	180,5	0,0	21,73	33,48	13,72		
CL - Stbd Fwd (Winch 10)	3aS	379	180,5	68,4	25,26	30,50	4,60		
CL - Stbd Fwd (Winch 11)	7S	0	180,5	0,0	26,31	31,12	16,19		
CL - Stbd Fwd (Winch 12)	3bS	379	180,5	68,4	31,13	30,50	4,60		
CL - Stbd Aft (Winch 13)	4aS	0	180,5	0,0	81,65	30,50	4,60		
CL - Stbd Aft (Winch 14)	8S	0	180,5	0,0	86,47	31,12	16,19		
CL - Stbd Aft (Winch 15)	4bS	0	180,5	0,0	87,52	30,50	4,60		
CL - Stbd Aft (Winch 16)	12S	479	180,5	86,5	91,05	33,48	13,72		
Chain Lockers		3426		618,4	44,85	-8,91	9,74		

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Connected Risers	ID			Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
P-1-10	N1,N2,N3			0,0	24,34	-15,27	8,80		
P-1-16	N4,N5,N6			0,0	24,34	-12,27	8,80		
P-1-08	N7,N8,N9			0,0	24,34	14,75	8,80		
FUTURE	N10,N11			0,0	24,34	17,37	6,50		
I-1-01	E1,E2			0,0	41,26	18,57	6,22		
P-1-09	E3,E4,E5			0,0	43,64	18,57	6,32		
P-1-13	E6,E7,E8			0,0	46,64	18,57	6,32		
LOC A	E9,E10,E11			0,0	49,64	18,57	6,32		
P-1-04	E12,E13,E14			0,0	52,64	18,57	6,32		
I-1-03	E15,E16			0,0	55,26	18,57	6,22		
I-1-04	E17,E18			0,0	57,26	18,57	6,22		
P-1-07	E19,E20,E21			0,0	59,64	18,57	6,32		
P-1-18	E22,E23,E24			0,0	62,64	18,57	6,32		
P-1-12	E25,E26,E27			0,0	65,64	18,57	6,32		
P-1-19	E28,E29,E30			0,0	68,64	18,57	6,32		
P-1-01	E31,E32,E33			0,0	71,64	18,57	6,32		
I-1-05	S1,S2			0,0	92,44	15,13	29,25		
P-1-05	S3,S4,S5			0,0	92,44	12,75	29,25		
P-1-11	S6,S7,S8			0,0	92,44	9,75	29,25		
P-1-17	S9,S10,S11			0,0	92,44	6,75	29,25		
P-1-06 (M/Fld) Riser 6"	S12			0,0	92,44	5,00	29,25		
P-1-14 (M/Fld) Riser 6"	S13			0,0	92,44	3,50	29,25		
P-1-03 (M/Fld) Riser 6"	S14			0,0	92,44	2,50	29,25		
Inj. Quim. (M/Fld) Riser UMB6"	S15			0,0	92,44	1,50	29,25		
Service Manifold Riser 4"	S16			0,0	92,44	0,50	29,25		
Control Umb (M/F) Riser UMB12	S17			0,0	92,44	-0,50	29,25		
Gas Lift Riser 6"	S18			0,0	92,44	-1,50	29,25		
P-1-20 (M/Fld) Riser 6"	S19			0,0	92,44	-2,50	29,25		
P-1-02 (M/Fld) Riser 6"	S20			0,0	92,44	-4,00	29,25		
P-1-15 (M/Fld) Riser 6"	S21			0,0	92,44	-5,00	29,25		
I-1-02	S22,S23			0,0	92,44	-6,87	29,25		
FUTURE (WI) F1/I1	S24,S25			0,0	92,44	-8,87	29,25		
SPARE (F1 / LOC H))	S26,S27,S28			0,0	92,44	-11,25	29,25		
SPARE (RJS-513)	S29,S30,S31			0,0	92,44	-14,25	29,25		
Optical Cable	S32			0,0	92,44	-16,00	29,25		
SPARE	W1			0,0	0,00	0,00	0,00		
SCR-GAS Riser 10" RG-02	RG-2			0,0	71,63	-36,29	6,00		
Electr. Cable	W3			0,0	62,17	-18,57	6,50		
FUEL GAS - FSO Riser 6" RG-(	W4			0,0	61,17	-18,57	6,18		
OIL C - EXPORT Riser 10" RO-(	W5			0,0	53,59	-18,57	6,50		
OIL B - EXPORT Riser 10" RO-(	W6			0,0	52,29	-18,57	6,50		
SCR - OIL EXP. Riser 10" RO-0	RO-1			0,0	48,77	-36,29	6,00		
Connected Risers				0,0	0,00	0,00	0,00	0,00	0,00

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JOSÉ CARLOS PINHEIRO CUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIAL
TRIBUNAL

Determination of Deadweight Loads and Unit Displacement

Miscellaneous Items	ID			Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Anchors on Racks (4 off)				72,0	63,51	0,00	12,10	0,00	0,00
Inclining Weights				187,0	65,43	2,12	43,86	0,00	0,00
Inc Weight Cribbing				42,0	60,89	2,87	42,94	0,00	0,00
Temporary Stores For Brazil				67,2	54,12	21,29	26,43	0,00	0,00
				0,0	0,00	0,00	0,00	0,00	0,00
Miscellaneous Items				368,2	62,47	5,29	34,36	0,00	0,00

Void Spaces	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
VOID SPACE	N.27P	0,0	1,025	0,0	33,53	-21,3	5,33		
VOID SPACE	N.27S	0,0	1,025	0,0	33,53	21,3	5,33		
VOID SPACE	N.28P	0,0	1,025	0,0	79,25	-21,3	5,33		
VOID SPACE	N.28S	0,0	1,025	0,0	79,25	21,3	5,33		
VOID SPACE	N.29P	0,0	1,025	0,0	19,06	-30,1	15,24		
VOID SPACE	N.29S	0,0	1,025	0,0	19,06	30,1	15,24		
VOID SPACE	N.29aP	0,0	1,025	0,0	28,2	-35,7	18,36		
VOID SPACE	N.29aS	0,0	1,025	0,0	28,2	35,7	18,36		
VOID SPACE	N.30P	0,0	1,025	0,0	93,72	-30,1	15,24		
VOID SPACE	N.30S	0,0	1,025	0,0	93,72	30,1	15,24		
VOID SPACE	N.30aP	0,0	1,025	0,0	84,58	-35,7	18,36		
VOID SPACE	N.30aS	0,0	1,025	0,0	84,58	35,7	18,36		
VOID SPACE	N.31P	0,0	1,025	0,0	84,58	-30,0	22,10		
VOID SPACE	N.31S	0,0	1,025	0,0	84,58	30,0	22,10		
VOID SPACE	N.32P1	0,0	1,025	0,0	23,75	-16,8	25,15		
VOID SPACE	N.32S1	0,0	1,025	0,0	23,75	16,8	25,15		
VOID SPACE	N.32P2	0,0	1,025	0,0	32,47	-23,1	25,30		
VOID SPACE	N.32S2	0,0	1,025	0,0	32,47	23,1	25,30		
VOID SPACE	N.32P3	0,0	1,025	0,0	28,19	-26,1	25,15		
VOID SPACE	N.32S3	0,0	1,025	0,0	28,19	26,1	25,15		
VOID SPACE	N.33P1	0,0	1,025	0,0	80,29	-31,4	25,15		
VOID SPACE	N.33S1	0,0	1,025	0,0	80,29	31,4	25,15		
VOID SPACE	N.33P2	0,0	1,025	0,0	88,88	-31,4	25,15		
VOID SPACE	N.33S2	0,0	1,025	0,0	88,88	31,4	25,15		
VOID SPACE	N.34	0,0	1,025	0,0	50,56	0,0	12,95		
VOID SPACE	N.35	0,0	1,025	0,0	62,22	0,0	12,95		
VOID SPACE	N.36	0,0	1,025	0,0	56,39	-7,5	27,43		
VOID SPACE	N.37P	0,0	1,025	0,0	48,65	-9,2	38,86		
VOID SPACE	N.37S	0,0	1,025	0,0	48,56	9,1	38,98		
VOID SPACE	N.38P	0,0	1,025	0,0	64,13	-9,2	38,86		
VOID SPACE	N.38S	0,0	1,025	0,0	64,22	9,1	38,98		
VOID SPACE	N.39	0,0	1,025	0,0	28,2	0,0	35,81		
VOID SPACE	N.40	0,0	1,025	0,0	51,56	-5,1	35,81		
VOID SPACE	N.41	0,0	1,025	0,0	56,39	24,0	35,81		
VOID SPACE	N.42P	0,0	1,025	0,0	56,39	-30,9	35,81		
VOID SPACE	N.42S	0,0	1,025	0,0	56,39	30,1	35,81		
VOID SPACE	N.43	0,0	1,025	0,0	80,91	2,6	35,81		
VOID SPACE	N.44	0,0	1,025	0,0	56,39	0,8	35,81		
VOID SPACE	N.45P	0,0	1,025	0,0	93,72	-22,9	30,10		

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JOSÉ CARLOS PIMENTEL GUIMARÃES
DIVISÃO DE PERÍCIAS JUDICIAIS

TRIBUNAL MARÍTIMO

Determination of Deadweight Loads and Unit Displacement

Void Spaces	ID	Volume (m3)	Density (MT/m3)	Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
VOID SPACE	N.45S	0,0	1,025	0,0	93,72	22,9	30,10		
VOID SPACE	N.45aP	0,0	1,025	0,0	93,72	-35,0	22,71		
VOID SPACE	N.45aS	0,0	1,025	0,0	93,72	35,0	22,71		
VOID SPACE	N.46P	0,0	1,025	0,0	19,06	-22,9	30,10		
VOID SPACE	N.46S	0,0	1,025	0,0	19,06	22,9	30,10		
VOID SPACE	N.46aP	0,0	1,025	0,0	19,06	-35,0	22,71		
VOID SPACE	N.46aS	0,0	1,025	0,0	19,06	35,0	22,71		
VOID SPACE	N.50P	0,0	1,025	0,0	16,77	-24,8	0,76		
VOID SPACE	N.50S	0,0	1,025	0,0	16,77	24,8	0,76		
VOID SPACE	N.51P	0,0	1,025	0,0	96,01	-24,8	0,76		
VOID SPACE	N.51S	0,0	1,025	0,0	96,01	24,8	0,76		
VOID SPACE	N.52P	0,0	1,025	0,0	71,57	-15,0	12,19		
VOID SPACE	N.52S	0,0	1,025	0,0	71,57	15,0	12,19		
VOID SPACE	N.53P	0,0	1,025	0,0	41,22	-15,0	12,19		
VOID SPACE	N.53S	0,0	1,025	0,0	41,22	15,0	12,19		
VOID SPACE	N.54	0,0	1,025	0,0	84,58	0,0	12,19		
VOID SPACE	N.55	0,0	1,025	0,0	28,19	0,0	12,19		
VOID SPACE	N.56	0,0	1,025	0,0	51,11	0,0	24,64		
VOID SPACE	N.57	0,0	1,025	0,0	61,67	0,0	24,64		
VOID SPACE	N.58S	0,0	1,025	0,0	42,3	15,0	12,19		
VOID SPACE	N.58P	0,0	1,025	0,0	42,3	-15,0	12,19		
VOID SPACE	N.59S	0,0	1,025	0,0	70,48	15,0	12,19		
VOID SPACE	N.59P	0,0	1,025	0,0	70,48	-15,0	12,19		
VOID SPACE	N.60	0,0	1,025	0,0	56,39	-0,6	24,76		
VOID SPACE	N.61P	0,0	1,025	0,0	70,89	-27,4	10,67		
VOID SPACE	N.61S	0,0	1,025	0,0	70,89	27,4	10,67		
VOID SPACE	N.62S	0,0	1,025	0,0	27,69	29,9	14,50		
VOID SPACE	N.62P	0,0	1,025	0,0	27,69	-29,9	14,50		
VOID SPACE	N.63S	0,0	1,025	0,0	84,58	29,9	14,50		
VOID SPACE	N.63P	0,0	1,025	0,0	84,58	-29,9	14,50		
VOID SPACE	N.64S	0,0	1,025	0,0	27,69	29,9	22,95		
VOID SPACE	N.64P	0,0	1,025	0,0	27,69	-29,9	22,95		
VOID SPACE	N.65S	0,0	1,025	0,0	84,58	29,9	22,95		
VOID SPACE	N.65P	0,0	1,025	0,0	84,58	-29,9	22,95		
CHAIN LOCKER	9P	0,0	1,025	0,0	93,73	-34,8	15,40		
CHAIN LOCKER	10P	0,0	1,025	0,0	19,05	-34,8	15,40		
CHAIN LOCKER	11S	0,0	1,025	0,0	19,05	34,8	15,40		
CHAIN LOCKER	12S	0,0	1,025	0,0	93,73	34,8	15,40		
Void Spaces				0,0	0,00	0,00	0,00	0,00	0,00

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Determination of Deadweight Loads and Unit Displacement

Determination of Unit Displacment

Displacement			Weight (M.T)	LCG (m)	TCG (m)	VCG (m)	FSCT	FSCL
Inclined Lightship	-	-	31164,5	60,62	-0,30	29,67	0,00	0,00
Drill Water Tanks (Process FW)			0,0	0,00	0,00	0,00	0,00	0,00
Potable Water			364,2	84,34	3,08	26,15	0,00	0,01
Fuel Oil			0,0	0,00	0,00	0,00	0,00	0,00
Diesel Oil			357,4	75,92	-4,28	39,08	0,01	0,00
Lub Oils			4,1	51,86	-3,14	26,73	0,00	0,00
Miscellaneous Tanks			1,0	54,39	-12,50	53,00	0,00	0,00
Non Structural Tanks			4,1	67,30	-2,04	44,58	0,00	0,00
Crew & Stores @TT			13,0	82,95	-2,06	37,72	0,00	0,00
Crew & Stores @ SD			21,6	62,47	1,09	41,13	0,00	0,00
Crew & Stores @ MD			6,5	56,20	8,51	43,87	0,00	0,00
Helicopter & Laydown Areas			8,1	106,05	-19,00	36,58	0,00	0,00
Process Content			0,0	0,00	0,00	0,00	0,00	0,00
Vertical Mooring Forces			15,1	63,51	0,00	18,29	-	-
Chiain Lockers			618,4	44,85	-8,91	9,74	-	-
Connected Risers			0,0	0,00	0,00	0,00	-	-
Miscellaneous Items			368,2	62,47	5,29	34,36	0,00	0,00
Void Spaces			0,0	0,00	0,00	0,00	-	-
SW Ballast			18640,5	50,30	-0,16	5,68	0,00	0,03
Displacement			51586,5	57,00	-0,32	20,84	0,01	0,04

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JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

Determination of Deadweight Loads and Unit Displacement

Calculation of Loading Condition			
Hydrostatic Data			Formula & Notes
Displacement	(tonnes)	51586,5	
Mean Draft from USK	(m)	18,79	T, From Hydrostatics+E7
Foreward Draft at Ponto	(m)	18,79	Fore Draft = T+Trim*LCF/LBP
Aft Draft at Pontoon	(m)	18,79	Aft Draft = T - Trim*(LBP-LCF)/LBP
Trim	(m)	0,00	Trim = (LCB-LCG)/(GML*LBP)
Trim Angle	(deg)	0,00	Trim Angle = arctan (trim/LBP)
Heel	(m)	0,00	Heel = (TCB-TCG)/(GMT*Breadth)
Heeling Angle	(deg)	0,00	Heel Angle = arctan(heel/breadth)
LCB	(m)	57,11	From Hydrostatics
LCF	(m)	56,43	From Hydrostatics
TCF	(m)	-0,02	From Hydrostatics
Coordinates of COG			
LCG	(m)	57,00	From Hydrostatics
TCG	(m)	-0,32	From Hydrostatics
VCG	(m)	20,84	From Hydrostatics
Statical Stability			
KML	(m)	27,80	From Hydrostatics
KMT	(m)	27,40	From Hydrostatics
VCG	(m)	20,84	
FSC (trans)	(m)	0,01	FSC = Total Transverse FS Inertia / ∇
FSC (long)	(m)	0,04	FSC = Total Longitudinal FS Inertia / ∇
VCG + FSC(trans)	(m)	20,86	
VCG + FSC (long)	(m)	20,88	
GMT	(m)	6,54	GMT = KMT - (VCG+FSC(trans))
GML	(m)	6,92	GML = KML - (VCG+FSC(long))
VCG Margin			
Max Allowable VCG	(m)	26,90	From Max Allowable VCG Curve
KG	(m)	20,88	Is max FSC VCG value
VCG Margin	(m)	6,02	VCG Margin = Max Allow VCG - KG

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

NOBLE DENTON

Determination of Displacement from Draft Readings

Average Water Density _____ tonnes/m^3

Length Between Perpendiculars (LBP) = _____ m

Distance Between Draft Marks (LM) = _____ m (See sketch attached)

DRAFTS FROM U.S.K. (metres)

	Aft	Midships	Fore
Port			
Starboard			
Average			
	(Taft)	(Tmid)	(T_{Fwd})

Draft calculations on perpendiculars

C1, C2, C3 values *
*(see sketch attached)

$T_{AP} = T_{aft} + C1*(T_{aft}-T_{fwd})/LM$ T_{AP} = _____ m C1 = _____ m

$T_{\otimes} = T_{mid} - C2*(T_{aft}-T_{fwd})/LM$ $T_{\otimes}$ = _____ m C2 = _____ m

$T_{FP} = T_{fwd} - C3*(T_{aft}-T_{fwd})/LM$ T_{FP} = _____ m C3 = _____ m

Average Draft from USK: $T_{MEAN} = (T_{AP} + 4*T_{\otimes} + T_{FP})/6$ _____ m

Draft Correction of SW Density $T'_{MEAN} = T_{MEAN}*(SW_{actual}/1.025)$ _____ m

Unit's Trim Trim = $T_{fwd} - T_{aft}$ _____ m

Longitudinal Centre of Flotation LCF (from ⊗) = _____ m

Layer Correction t = LCF/LBP x Trim _____ m

Draft at LCF (inc Layer Correction) Draft at LCF (T'_{LCF}) _____ m

Displacement (at Draft T'_{LCF}) **Displacement (Δ)=** _____ **Tonnes**

Hydrostatic Properties of Unit

DRAFT (m)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

Loading Condition: Post Mooring Installation
Draft = 22.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	6,10	0,000	0,000
SW Ballast 3S	728,7	1,025	99%	739	16,71	30,88	6,10	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	99%	260	27,71	-22,82	2,93	0,000	0,004
SW Ballast 5S	256,6	1,025	99%	260	27,71	22,82	2,93	0,000	0,004
SW Ballast 6P	523,9	1,025	99%	532	28,19	-31,74	5,21	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	99%	253	85,17	-22,72	2,98	0,000	0,000
SW Ballast 16S	249,7	1,025	99%	253	85,17	22,72	2,98	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	81%	800	103,87	-24,48	5,58	0,008	0,073
SW Ballast 21S	963,7	1,025	99%	978	103,87	24,48	6,63	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	69%	691	28,00	-26,33	12,27	0,010	0,010
SW Ballast 24S	980,8	1,025	64%	647	28,00	26,33	12,00	0,010	0,010
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	18%	183	84,77	-26,33	9,85	0,030	0,034
SW Ballast 26S	980,8	1,025	25%	255	84,77	26,33	10,13	0,030	0,034
SW Ballast Total				21345	50,94	0,23	5,67	0,09	0,17

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,000	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	21345,2	50,94	0,23	5,67	0,088	0,167
Displacement	**56503,2**	**57,05**	**-0,02**	**20,03**	**0,090**	**0,168**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	48,54 m
MCTC	35,06 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

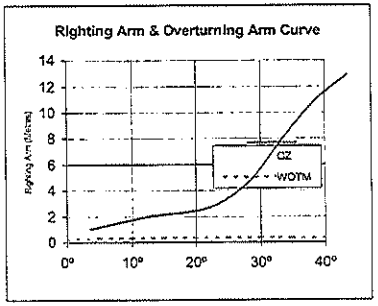
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	20,12 m	20,20 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	6,68 m	7,00 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	2,84 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	0%	1,000	0,0	40,25	-29,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	29,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-20,90	25,00	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,89	25,00	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	35,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-22,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,01	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	91,72	-23,66	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	91,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,85	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,01	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	70,58	16,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,00	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,0	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	76,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,67	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65100	100%	0,900	0,5	46,60	-22,17	43,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122306	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122305	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,61	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-28,31	0,06	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	28,31	0,06	0,000	0,000
W.L.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	68,77	40,68	75,87	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hellfuel Reliel	A58001	100%	1,000	7,9	34,35	-12,53	43,02	0,000	0,000
Hellfuel Disp.	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T55305	100%	0,870	0,2	21,66	25,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	93,02	-5,30	52,91	0,000	0,000
FW Cooling Expansion Tank	T55102	100%	1,000	0,5	84,97	-5,29	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	20,80	0,000	0,000
Glycol Sump Tank	TO-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	79,22	0,44	40,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	49,00	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	82,29	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	82,26	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	0%	0,900	0,0	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	0%	0,900	0,0	81,79	18,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	0%	0,900	0,0	64,46	18,86	37,38	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	0%	0,900	0,0	50,68	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,000	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,000	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	58,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123502	0%	1,050	0,0	57,13	18,03	45,35	0,000	0,000
TCD Contactor Towers	UO-122301	0%	1,060	0,0	57,44	12,67	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	82,88	30,50	45,98	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	86,94	22,88	48,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	52,86	18,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	58,30	18,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-123101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	80,48	-0,54	40,97	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	58,66	-21,60	44,70	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,935	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	0%	0,650	0,0	79,28	16,85	49,85	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,650	0,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-15	E6,E7,E8	N	0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,00	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
In] Subm. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) P1/I1	S24,S25	N	0,0	92,44	-8,67	29,25
SPARE (P1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-30,29	0,00
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,28	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	85%	10,0	84,58	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,32
Dry Store 2	SD-06	10%	4,0	37,21	15,03	40,32
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,02
Crew & Stores @ SD	0		86,1	61,83	-0,84	41,00

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	97,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	91,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	85,47	-31,12	16,10
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,10
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,79	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	91,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	97,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	85,47	31,12	16,10
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,10
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	3370	1021,9	58,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,9	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	93,91	9,85	37,88
Pump Store Fwd	TT-02	10%	0,0	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,88	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	89,51	24,00	37,58
Store	TT-08	5%	4,1	82,80	31,44	37,88
Store	TT-09	5%	3,0	69,19	-6,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-5,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	9,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,28
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,96	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	46,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,26	43,00
Compression A Laydown	LD-04	50%	20,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		256,7	62,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DIVISÃO JUDICIÁRIA TRIBUNAL MARÍTIMO

Loading Condition: Transition from operating Draft (22.0m) to Fairlead Inspection Draft (18.0m)
Draft = 20.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	60%	492	13,73	36,66	3,82	0,002	0,028
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	98%	557	26,94	-36,18	5,99	0,001	0,011
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	39%	309	98,59	36,27	2,49	0,002	0,023
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				7760	31,27	1,13	5,06	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	7759,9	31,27	1,13	5,06	0,005	0,061
Displacement	**53436,1**	**57,08**	**-0,02**	**23,01**	**0,011**	**0,075**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	20,0 m
LCB (from FP)	57,08 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,27 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	28,03 m
MCTC	21,38 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

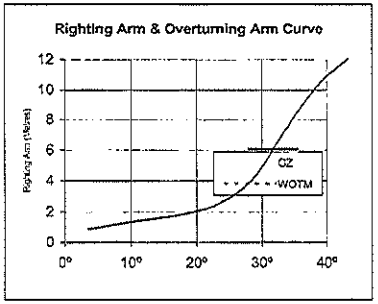
Draft Aft Perpendicular (INPUT)	20,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	20,000 m
Mean Draft @ Amidships	20,000 m
Mean Draft Forward	20,000 m

Statical Stability

Corrected VCG =	23,02 m	23,09 m
KMT / KML =	27,10 m	27,60 m
GMT / GML =	4,08 m	4,51 m

Stability Margin

Allowable VCG =	26,80 m
Stability Margin =	3,71 m



ESTA FOLHA FEZ PARTE DO DOCUMENTO ORIGINAL
JOSE CARLOS PINHEIRO DESIDERIO
DIRETOR
DIVISÃO DE PERMISSÃO MARÍTIMA

Summary Breakdown of Deadweight Loads

NOBL. DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	276,2	40,25	-25,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	276,2	40,25	25,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,58	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,6	84,58	-20,00	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,6	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,99	36,10	0,000	0,000
Potable Water	0			402,7	84,35	0,10	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	580,3	51,05	-23,01	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,01	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	586,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	18,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,88	35,81	0,000	0,000
Fuel Oil	0			2383,0	58,76	0,04	5,66	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,0	67,61	-13,82	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	36,10	0,000	0,000
DOGett	N4S	100%	0,870	73,5	70,15	15,62	30,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,66	-3,55	39,04	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,3	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,67	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,67	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,80	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	0,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,40	-26,31	0,36	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,45	26,31	0,38	0,000	0,000
W.I.L ning Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ning Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-31001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-32001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,35	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	76,72	-26,20	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	76,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	80,09	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,310	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,315	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,315	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,315	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refluel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	26,76	43,84	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-5,20	52,91	0,000	0,000
Oily Water Separators	UQ201/V-60202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,060	12,1	95,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	70,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	50,82	6,28	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,4	92,29	-28,31	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	28,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-10,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	100%	0,900	38,5	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,40	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,08	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	18,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Slops Pits Marine Separator	V-68212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,5	57,13	10,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	52,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,87	-10,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30903	100%	1,000	9,4	56,94	22,68	48,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	S-511102A/B/C	100%	1,025	59,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,800	104,3	60,46	-0,54	46,07	0,000	0,000
HP Flare KO Drum Skid	A45001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	25,81	17,04	45,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,955	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,86	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1607,0	78,85	-11,05	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y	163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	8,80
I-1-01	E1,E2	Y	108,6	41,23	18,57	6,22
P-1-03	E3,E4,E5	Y	166,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	48,64	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y	108,6	55,26	18,57	6,22
I-1-04	E17,E18	Y	108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	30,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,9	92,44	0,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	0,75	29,25
P-1-06 (M/Fld) Riser 8"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	108,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y	108,0	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y	166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,0	92,44	-14,25	29,25
Optical Cable	S32	Y	11,6	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	152,0	71,63	35,20	6,00
Elecir. Cable	W3	Y	25,6	62,17	-18,57	6,50
FUEL GAS - FSO Riser 8" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RG-03	W5	Y	144,9	53,50	-18,57	6,50
OIL B - EXPORT Riser 10" RG-02	W6	Y	144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	138,2	48,77	-36,29	6,00
Connected Risers	0		3951,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,80	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,40	-0,23	41,02
Dry Store 1	SD-05	25%	14,0	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	90%	15,0	45,72	0,00	41,02
Crew & Stores @ SD	0		104,1	63,11	0,28	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,46	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,25	-30,50	4,60
Chain Locker - Port Fwd (Winch 8)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 6)	10P	337	63,9	21,73	-33,46	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,46	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,25	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,46	13,72
Chain Onboard	0	Sum	1021,9	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	105,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,1	84,56	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,91	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,8	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,16	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,88
Production Warehouse	TT-06	60%	30,0	88,61	24,10	37,88
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,88
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-9,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,08
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,59
Starboard Forward Laydown Area	TT-14	10%	2,0	37,57	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		169,3	78,84	4,33	37,89

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,8	95,89	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		47,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-30,50	48,90
Tele Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	39,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Loading Condition: Transiition from Transit Draft (11.0m) to Mooring Installation Draft (18.0m)
Draft = 18.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	74%	661	6,78	-30,71	4,65	0,006	0,017
SW Ballast 2S	877,6	1,025	69%	624	6,78	30,71	4,40	0,006	0,017
SW Ballast 3P	728,7	1,025	80%	598	16,71	-30,88	5,23	0,005	0,009
SW Ballast 3S	728,7	1,025	85%	631	16,71	30,88	5,23	0,005	0,009
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	99%	532	28,19	-31,74	5,21	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	96%	516	84,58	-31,74	5,01	0,003	0,019
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	13%	127	103,87	-24,48	0,79	0,007	0,061
SW Ballast 21S	963,7	1,025	44%	436	103,87	24,48	2,97	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				16616	49,52	0,47	5,19	0,04	0,15

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	16616,0	49,52	0,47	5,19	0,036	0,146
Displacement	**50389,5**	**57,12**	**-0,02**	**21,21**	**0,039**	**0,147**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	41,17 m
MCTC	30,12 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

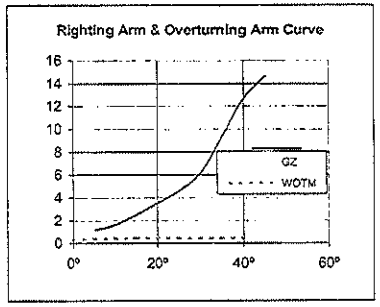
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	21,25 m	21,36 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	6,35 m	6,74 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,87 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-25,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-26,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,88	39,10	0,000	0,000
Potable Water	0			402,7	84,39	0,19	29,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-25,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	25,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	51,72	-23,60	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	51,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,64	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,9	78,67	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,66	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	165,3	74,52	-13,06	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,80	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,82	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,82	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,6	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,06	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	0%	0,900	0,0	69,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UQ-122306	0%	0,900	0,0	69,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UQ-122304	0%	0,900	0,0	69,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,06	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,06	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Stbd)	C-52001	0%	1,000	0,0	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,60	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-0,08	29,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,3	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,66	26,75	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	84,67	-5,20	52,91	0,000	0,000
Oily Water Separators	V-662001/V-662202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533005	0%	1,000	0,0	76,22	0,44	48,47	0,000	0,000
Non Structural Tanks	0			12,1	46,58	-0,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,20	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,25	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-29,01	47,49	0,000	0,000
Production Caisson	TD-533001	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122300	0%	1,000	0,0	89,68	0,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
GearCond. Chemical Injection Packag	UQ-662503	0%	0,900	0,0	59,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-662501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-662502	0%	0,900	0,0	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-662501-01	0%	0,900	0,0	50,08	17,60	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	49,10	-3,22	63,79	0,000	0,000
Skim Pile Marine Separator	V-66212	0%	0,900	0,0	59,51	-19,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	30,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-512202	0%	0,820	0,0	93,87	-16,06	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	55,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	80,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	50,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,00	48,66	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	75,28	31,85	48,66	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,66	48,66	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	48,66	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-19,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,28	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,94	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Culm. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	N	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,28	0,00
Elect. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,28	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	0,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,0	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crow & Effects	0	30%	15,0	45,72	0,00	41,92
Crow & Stores @ SD	0		68,1	61,83	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,90	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	8P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,20	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	29,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	5S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,20	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	29,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,6	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,83	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	63,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	65,07	-29,66	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	60,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,10	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,75
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,58
Central Caisson Laydown Area	TT-13	10%	0,0	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	49,00
Tota Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launchor Laydown	LD-10	0%	0,0	108,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	32,07	5,71	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

Transiition from Transit Draft (11.0m) to Mooring Installation Draft (18.0m)
Draft = 14.5m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	99%	532	28,19	-31,74	5,21	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	71%	379	84,58	-31,74	3,28	0,003	0,021
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	58%	456	98,66	-36,37	3,63	0,002	0,027
SW Ballast 20S	768,2	1,025	69%	547	98,59	36,27	4,33	0,002	0,027
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				11435	46,39	0,71	5,14	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	11434,7	46,39	0,71	5,14	0,008	0,075
Displacement	**45208,2**	**57,20**	**-0,02**	**23,04**	**0,011**	**0,076**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	14,5 m
LCB (from FP)	57,20 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,63 m
LCF (from FP)	56,42 m
TCF (+ve stbd)	-0,04 m
MCHC	22,99 m
MCTC	19,19 m
TPC	14,02 T/cm

Draft, Heel & Trim
(Input from Stability Software)

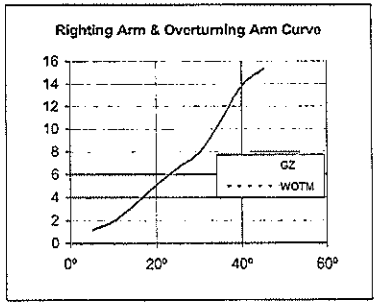
Draft Aft Perpendicular (INPUT)	14,50 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	14,500 m
Mean Draft @ Amidships	14,500 m
Mean Draft Forward	14,500 m

Statical Stability

Corrected VCG =	23,05 m	23,11 m
KMT / KML =	27,00 m	27,90 m
GMT / GML =	3,95 m	4,79 m

Stability Margin

Allowable VCG =	26,70 m
Stability Margin =	3,59 m



É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS MARTELLI OSSAMU
DIRETOR
LITRAN S/A ESTALEIROS NAVAIS
DIVISÃO JUDICIÁRIA
PRESIDIU AS MARÍTIMAS

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,30	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,30	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process F/W)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	28,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,90	0,19	29,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	51,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	51,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	38,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,88	38,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	38,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,02	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	0,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,99	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	78,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,95	38,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,5	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,05	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	33,33	29,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,66	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	45,90	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122306	0%	0,900	0,0	89,67	24,99	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122305	0%	0,900	0,0	85,88	0,85	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,81	-1,02	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,40	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,01	0,08	0,000	0,000
W.I.L.ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L.ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	88,77	-8,06	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	25,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-25,70	27,00	0,000	0,000
Hollfuel Refuel	A56001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Hollfuel Disp	A56002	100%	1,000	0,1	25,91	-10,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,65	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T65101	100%	1,000	2,0	80,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T65102	100%	1,000	0,5	64,97	-8,20	52,91	0,000	0,000
Oily Water Separators	P-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	50,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	0,44	40,47	0,000	0,000
Non Structural Tanks	0			12,1	40,58	-0,05	44,16	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,28	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,28	-16,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,91	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122305	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-882503	0%	0,900	0,0	88,49	15,14	44,66	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-882501-02	0%	0,900	0,0	81,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-882502	0%	0,000	0,0	84,46	18,68	37,35	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-882501-01	0%	0,900	0,0	80,88	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,000	0,0	81,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	85,96	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,035	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,79	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,000	0,0	59,51	-16,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	0%	1,080	0,0	57,13	19,93	48,36	0,000	0,000
TEG Contactor Towers	UO-123301	0%	1,080	0,0	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,86	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-041202	0%	0,820	0,0	93,67	-16,38	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	96,94	22,58	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	92,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps conients	B-511102A/B/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	80,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,00	-21,50	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	26,81	17,64	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,905	0,0	31,81	23,80	48,56	0,000	0,000
Process Gas Module 'C'	UO-122303	0%	0,650	0,0	79,28	31,86	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	0%	0,650	0,0	79,28	13,86	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,650	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-16,27	6,80
P-1-15	N4,N5,N6	N	0,0	24,34	-12,27	6,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	6,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,64	18,57	6,32
LOG A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,84	18,57	6,32
I-1-03	E15,E16	N	0,0	55,20	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	N	0,0	62,84	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	16,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-08 (M/Fld) Riser 6"	S12	N	0,0	92,44	3,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,30	29,25
Inj. Quim. (M/Fld) Riser UM90"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UM812"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-6,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	N	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,26	6,00
Elect. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,16
OIL C - EXPORT Riser 10" RG-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RG-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	49,77	-30,20	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,59	-24,00	40,92
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,70	-15,02	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	90,21	8,49	40,52
Dry Store 2	SD-06	10%	4,6	37,21	16,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,84	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,92	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,20	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	8P	450	85,3	26,21	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,20	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,21	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7500	1364,8	56,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	29,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	61,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,83	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	29,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	61,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	83,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,20	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	61,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,07	-23,86	37,56
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,56
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,56
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,18	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,03	37,68
Central Caisson Laydown Area	TT-13	10%	0,8	61,80	-2,75	37,56
Starboard Forward Laydown Area	TT-14	10%	2,0	37,87	22,62	37,56
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	66,59	8,51	43,67
Dock Locker	MD-02	5%	1,4	48,89	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-39,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	85,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	85,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	85,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	108,05	-19,00	36,58
Multipurpose Court	LD-11	50%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		208,7	57,07	5,21	45,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Loading Condition: Transiition from Transit Draft (11.0m) to Mooring Installation Draft (18.0m)
Draft = 12.5m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	32%	266	13,73	-36,66	2,14	0,003	0,033
SW Ballast 4S	798,3	1,025	90%	736	13,73	36,66	5,60	0,003	0,035
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	33%	261	98,66	-36,37	2,12	0,003	0,027
SW Ballast 20S	768,2	1,025	2%	13	98,59	36,27	0,13	0,001	0,013
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				8135	42,33	1,01	5,08	0,01	0,11

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	8134,6	42,33	1,01	5,08	0,009	0,108
Displacement	**41908,1**	**57,27**	**-0,02**	**24,43**	**0,012**	**0,109**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	12,5 m
LCB (from FP)	57,27 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,09 m
LCF (from FP)	56,41 m
TCF (+ve stbd)	-0,03 m
MCHC	23,49 m
MCTC	36,26 m
TPC	18,73 T/cm

Draft, Heel & Trim
(Input from Stability Software)

Draft Aft Perpendicular (INPUT)	12,50 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	12,500 m
Mean Draft @ Amidships	12,500 m
Mean Draft Forward	12,500 m

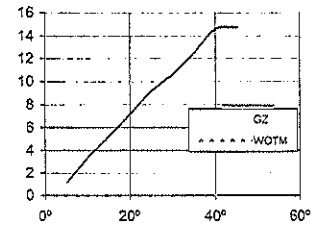
Statical Stability

Corrected VCG =	24,44 m	24,54 m
KMT / KML =	28,80 m	34,30 m
GMT / GML =	4,36 m	9,76 m

Stability Margin

Allowable VCG =	28,50 m
Stability Margin =	3,96 m

Righting Arm & Overturning Arm Curve



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DIRETOR
CATALOGO DE SERVIÇOS CARTORARIOS
DIVISÃO JUDICIÁRIA
2413

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6p	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,56	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,56	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,95	38,10	0,000	0,000
Potable Water	0			402,7	84,35	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,85	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	76,94	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	76,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	76,91	1,79	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,99	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,00	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	76,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,55	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	79,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	79,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,05	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,00	0,000	0,000
Wt Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
Wt Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UQ-122306	0%	0,900	0,0	69,97	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UQ-122305	0%	0,900	0,0	69,08	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UQ-122304	0%	0,900	0,0	69,71	-9,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,61	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	76,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	76,49	26,31	0,08	0,000	0,000
W.L.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-61001	0%	1,000	0,0	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Sturb)	C-62001	0%	1,000	0,0	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	0%	1,000	0,0	70,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	0%	1,000	0,0	70,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-0,06	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,318	0,0	25,00	-25,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,318	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,318	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,318	0,0	25,00	25,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,05	26,76	43,04	0,000	0,000
FW Chem Dosing Tank	T65101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T65102	100%	1,000	0,5	84,97	-6,20	52,01	0,000	0,000
Oily Water Separators	A-66201/A-66202	100%	0,960	1,4	60,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-122301	0%	1,000	0,0	55,23	21,23	37,08	0,000	0,000
Tank Top Dump Tank	V-533605	0%	1,000	0,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	46,58	-0,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-633601	0%	0,900	0,0	64,74	-10,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,08	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-9,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	91,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	50,58	17,80	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	0%	0,900	0,0	61,53	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,835	0,0	48,12	2,03	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-662212	0%	0,900	0,0	39,51	-19,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	10,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,98	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,920	0,0	63,87	-16,36	44,21	0,000	0,000
Seawter Comp Process Pkg	A30003	0%	1,000	0,0	56,94	22,08	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,08	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	G-511102A/D/C	0%	1,025	0,0	56,39	9,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,800	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,620	0,0	59,66	-21,00	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	20,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,00	46,86	0,000	0,000
Process Gas Module 'C'	UQ-122303	0%	0,650	0,0	79,28	31,85	45,88	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	45,88	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,05	45,88	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N		0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N		0,0	24,34	14,75	8,80
FUTURE	N10,N11	N		0,0	24,34	17,37	6,50
I-1-01	E1,E2	N		0,0	41,26	18,57	6,22
P-1-03	E3,E4,E5	N		0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N		0,0	48,64	18,57	6,32
LOC A	E9,E10,E11	N		0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N		0,0	62,64	18,57	6,32
I-1-03	E15,E16	N		0,0	66,28	18,57	6,22
I-1-04	E17,E18	N		0,0	57,28	18,57	6,22
P-1-07	E19,E20,E21	N		0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N		0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N		0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N		0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,64	18,57	6,32
I-1-05	S1,S2	N		0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N		0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N		0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N		0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N		0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N		0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N		0,0	92,44	2,50	29,25
inj. Cuim. (M/Fld) Riser UMB6"	S15	N		0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N		0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMG12"	S17	N		0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N		0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N		0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N		0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N		0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N		0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N		0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	N		0,0	92,44	-11,25	29,25
SPARE (RJS-S10)	S29,S30,S31	N		0,0	92,44	-14,25	29,25
Optical Cable	S32	N		0,0	92,44	-16,00	29,25
SPARE	W1	O		0,0	0,00	0,00	0,00
SCH-GAS Riser 10" RG-02	RO-2	N		0,0	71,63	-36,29	29,00
Elect. Cable	W3	N		0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RO-01	W4	N		0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N		0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N		0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N		0,0	45,77	-36,29	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	84,58	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	88,00	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	66,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	91,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	450	85,3	80,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,85	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 9)	6P	450	85,3	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	91,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	80,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 10)	12S	450	85,3	91,85	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,60	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,60	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	83,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,48	-31,19	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,16	37,88
Mech Workshop	TT-05	10%	10,0	85,37	-23,09	37,58
Production Warehouse	TT-06	10%	5,1	89,61	24,10	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,06	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,10	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	-4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,88	-2,73	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,79

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	89,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,8	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,60	48,90
Toxo Tank Laydown	LD-01	40%	30,4	37,14	10,97	43,00
Misc Laydown 1	LD-02	40%	30,0	38,05	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	108,05	-10,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		296,7	32,67	0,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

i310

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 44 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O DAM RA	F VCG T.
0	0	0,54	99,99	30,37	29,83	22,75	2	23,18
10	0	0,55	99,99	28,43	27,88	22,75	2	23,26
20	0	0,57	99,99	27,69	27,12	22,74	2	23,78
30	0	0,57	99,99	27,39	26,82	22,73	2	24,97
40	0	0,54	99,99	27,14	26,6	22,73	2	27
50	0	0,48	99,99	26,73	26,25	22,73	1	29,7
60	0	0,4	99,99	26,16	25,76	22,74	1	33,62
70	0	0,32	99,99	25,55	25,22	22,76	1	37,96
80	0	0,27	99,99	25,22	24,95	22,77	1	40,64
90	0	0,25	99,99	26,34	26,09	22,78	1	41,68
270	0	0,24	99,99	35,94	35,7	22,84	1	40,85
280	0	0,26	99,99	25,19	24,93	22,84	1	40,22
290	0	0,32	99,99	25,35	25,04	22,83	1	38,46
300	0	0,4	99,99	25,94	25,54	22,82	1	34,68
310	0	0,48	99,99	26,55	26,07	22,8	1	30,78
320	0	0,54	99,99	27	26,46	22,79	2	27,85
330	0	0,57	99,99	27,29	26,72	22,78	2	25,56
340	0	0,57	99,99	27,7	27,13	22,77	2	24,15
350	0	0,55	99,99	28,74	28,19	22,76	2	23,44

d320

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 46 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O DAM RA	F VCG T.
0	1,14	1,54	99,99	28,81	27,27	22,41	2	21,2
10	0	1,3	99,99	29,4	28,1	22,41	2	21,36
20	0	1,04	99,99	27,79	26,75	22,41	2	20,36
30	0	0,75	99,99	26,8	26,06	22,41	2	23,44
40	0	0,44	99,99	26,19	25,75	22,42	1	27,47
50	0	0,12	99,99	25,94	25,82	22,43	1	32,52
60	0	99,99	99,99	25,69	99,99	99,99	99,99	-50
70	0	99,99	99,99	25,26	99,99	99,99	99,99	-50
80	0	99,99	99,99	25,08	99,99	99,99	99,99	-50
90	0	99,99	99,99	26,3	99,99	99,99	99,99	-50
270	1,15	1,36	99,99	25,48	24,12	22,47	2	30,82
280	1,32	1,56	99,99	24,6	23,04	22,46	2	29,14

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JOSÉ CARLOS FAGUNDES GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
2736
TRIBUNAL MARÍTIMO

290	1,46	1,77	99,99	24,95	23,18	22,45	3	27,25
300	1,56	1,95	99,99	25,52	23,57	22,44	3	25,4
310	1,61	2,08	99,99	26,08	24	22,42	3	23,87
320	1,61	2,13	99,99	26,46	24,33	22,41	3	22,7
330	1,56	2,08	99,99	26,69	24,61	22,41	3	21,64
340	1,46	1,95	99,99	27,01	25,06	22,41	3	21,09
350	1,32	1,76	99,99	27,64	25,88	22,41	3	21,02

d321

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 50 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O F DAM RA	VCG T.
0	1,21	1,61	99,99	29,32	27,7	22,45	3	21,11
10	1,05	1,44	99,99	29,16	27,72	22,45	2	21,4
20	0	1,24	99,99	27,75	26,52	22,44	2	22,2
30	0	0,98	99,99	26,93	25,95	22,45	2	23,61
40	0	0,71	99,99	26,39	25,68	22,46	2	24,7
50	0	0,43	99,99	25,97	25,54	22,46	1	30,36
60	0	0,14	99,99	25,3	25,16	22,47	1	36,25
70	0	99,99	99,99	24,6	99,99	99,99	99,99	-50
80	0	99,99	99,99	24,35	99,99	99,99	99,99	-50
90	0	99,99	99,99	25,86	99,99	99,99	99,99	-50
270	0	0,99	99,99	25,07	24,08	22,51	2	32,65
280	0	1,23	99,99	24,41	23,18	22,5	2	31,2
290	1,16	1,47	99,99	24,84	23,37	22,49	2	29,05
300	1,31	1,69	99,99	25,51	23,81	22,47	3	26,75
310	1,41	1,87	99,99	26,13	24,27	22,46	3	24,79
320	1,47	1,96	99,99	26,57	24,61	22,45	3	23,19
330	1,47	1,97	99,99	26,84	24,86	22,44	3	21,87
340	1,42	1,9	99,99	27,23	25,32	22,44	3	21,17
350	1,34	1,77	99,99	27,96	26,18	22,45	3	20,98

d322

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 47 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O F DAM RA	VCG T.
0	0	1,02	99,99	29,99	28,97	22,5	2	19,11
10	0	1,03	99,99	28,34	27,32	22,5	2	19,08
20	0	1,01	99,99	27,5	26,49	22,49	2	22,28
30	0	0,96	99,99	27,06	26,1	22,49	2	23,53

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DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

TRIBUNAL MARÍTIMO
2417

40	0	0,88	99,99	26,77	25,89	22,49	2	25,61
50	0	0,76	99,99	26,34	25,57	22,49	2	28,08
60	0	0,63	99,99	25,71	25,08	22,49	1	31,36
70	0	0,49	99,99	25,01	24,53	22,49	1	35,44
80	0	0,34	99,99	24,5	24,16	22,5	1	38,68
90	0	0,19	99,99	24,94	24,75	22,51	1	40,93
270	0	0,09	99,99	25,52	25,43	22,54	1	41,65
280	0	0,24	99,99	24,44	24,2	22,54	1	39,89
290	0	0,4	99,99	24,79	24,38	22,53	1	37,3
300	0	0,55	99,99	25,46	24,91	22,53	1	33,79
310	0	0,69	99,99	26,13	25,44	22,53	1	29,94
320	0	0,82	99,99	26,59	25,77	22,52	2	26,84
330	0	0,92	99,99	26,96	26,04	22,51	2	24,38
340	0	0,98	99,99	27,57	26,6	22,51	2	20,7
350	0	1,01	99,99	28,77	27,76	22,5	2	19,61

d323

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 44 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O F DAM RA	VCG T.
0	0	1	99,99	29,47	28,47	22,5	2	19,32
10	0	1,06	99,99	28,09	27,02	22,5	2	21,64
20	0	1,11	99,99	27,42	26,32	22,49	2	22,02
30	0	1,11	99,99	27,1	25,99	22,48	2	23,08
40	0	1,05	99,99	26,85	25,79	22,48	2	24,98
50	0	0,95	99,99	26,44	25,49	22,49	2	27,05
60	0	0,84	99,99	25,83	24,99	22,5	2	29,7
70	0	0,72	99,99	25,15	24,43	22,5	1	32,58
80	0	0,59	99,99	24,62	24,03	22,5	1	35,85
90	0	0,45	99,99	25,01	24,56	22,51	1	37,85
270	0	99,99	99,99	26,03	99,99	99,99	99,99	-50
280	0	99,99	99,99	24,39	99,99	99,99	99,99	-50
290	0	0,14	99,99	24,73	24,58	22,54	1	40,52
300	0	0,31	99,99	25,43	25,12	22,54	1	36,38
310	0	0,48	99,99	26,12	25,64	22,53	1	31,87
320	0	0,64	99,99	26,58	25,94	22,52	1	27,62
330	0	0,77	99,99	26,99	26,22	22,51	2	24,15
340	0	0,87	99,99	27,71	26,84	22,51	2	21,7
350	0	0,94	99,99	29,11	28,17	22,51	2	20,19

d324

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 46 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO
2733

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O DAM RA	F VCG T.
0	1,06	1,48	99,99	28,88	27,39	22,29	2	21,03
10	1,17	1,62	99,99	27,77	26,15	22,27	3	20,92
20	1,25	1,73	99,99	27,24	25,51	22,26	3	20,99
30	1,28	1,78	99,99	26,96	25,17	22,25	3	21,59
40	1,27	1,76	99,99	26,74	24,97	22,24	3	22,81
50	1,2	1,67	99,99	26,35	24,68	22,24	3	24,33
60	1,09	1,49	99,99	25,75	24,27	22,26	2	26,35
70	0	1,25	99,99	25,05	23,8	22,29	2	29
80	0	1,01	99,99	24,46	23,45	22,33	2	31,91
90	0	0,83	99,99	24,63	23,79	22,32	1	33,76
270	0	99,99	99,99	30,27	99,99	99,99	99,99	-50
280	0	99,99	99,99	24,41	99,99	99,99	99,99	-50
290	0	99,99	99,99	24,48	99,99	99,99	99,99	-50
300	0	0,21	99,99	25,17	24,96	22,38	1	37,25
310	0	0,46	99,99	25,86	25,41	22,37	1	31,57
320	0	0,7	99,99	26,27	25,57	22,35	2	25,78
330	0	0,93	99,99	26,85	25,92	22,34	2	24,27
340	0	1,15	99,99	27,81	26,66	22,32	2	22,4
350	0	1,32	99,99	29,5	28,17	22,3	2	21,74

d325

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 46 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O DAM RA	F VCG T.
0	1,09	1,55	99,99	28,34	26,79	22,1	3	21,13
10	1,27	1,76	99,99	27,42	25,66	22,09	3	20,7
20	1,4	1,94	99,99	26,98	25,05	22,08	3	20,61
30	1,48	2,05	99,99	26,76	24,71	22,06	3	21,02
40	1,52	2,08	99,99	26,6	24,52	22,06	3	21,86
50	1,51	2,01	99,99	26,28	24,27	22,07	3	22,9
60	1,46	1,87	99,99	25,75	23,88	22,09	3	24,48
70	1,36	1,68	99,99	25,12	23,44	22,11	3	26,58
80	1,21	1,46	99,99	24,59	23,13	22,13	2	28,91
90	1,02	1,23	99,99	24,85	23,62	22,15	2	30,63
270	0	99,99	99,99	35,84	99,99	99,99	99,99	-50
280	0	99,99	99,99	25,07	99,99	99,99	99,99	-50
290	0	99,99	99,99	25,06	99,99	99,99	99,99	-50
300	0	99,99	99,99	25,44	99,99	99,99	99,99	-50
310	0	0,17	99,99	25,7	25,52	22,2	1	33,35
320	0	0,48	99,99	26	25,51	22,17	1	28,06
330	0	0,79	99,99	26,69	25,9	22,15	2	24,92
340	0	1,05	99,99	27,88	26,82	22,14	2	22,74
350	0	1,31	99,99	29,87	28,56	22,12	2	21,86

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
NÚCLEO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

d326

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 42 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O F DAM RA	VCG T.
0	1,57	2,04	99,99	28,21	26,17	21,96	3	20,56
10	1,76	2,29	99,99	27,36	25,07	21,94	3	20,03
20	1,9	2,49	99,99	26,96	24,47	21,92	4	19,85
30	1,97	2,62	99,99	26,76	24,14	21,9	4	20,14
40	1,99	2,63	99,99	26,59	23,97	21,9	4	20,85
50	1,96	2,52	99,99	26,26	23,74	21,91	4	21,83
60	1,87	2,32	99,99	25,71	23,39	21,93	3	23,34
70	1,72	2,06	99,99	25,03	22,97	21,97	3	25,46
80	1,5	1,76	99,99	24,42	22,66	21,99	3	27,93
90	1,25	1,45	99,99	24,48	23,02	22,02	2	30,01
270	0	99,99	99,99	35,91	99,99	99,99	99,99	-50
280	0	99,99	99,99	24,92	99,99	99,99	99,99	-50
290	0	99,99	99,99	24,71	99,99	99,99	99,99	-50
300	0	99,99	99,99	25,05	99,99	99,99	99,99	-50
310	0	0,32	99,99	25,46	25,14	22,06	1	32,33
320	0	0,71	99,99	25,9	25,18	22,02	2	27,3
330	0	1,1	99,99	26,66	25,56	22	2	24,12
340	1,03	1,46	99,99	27,94	26,48	21,98	2	22,56
350	1,32	1,77	99,99	29,95	28,18	21,97	3	21,36

d327

Noble De nton Pro gram POS T-GEN 4R 1/jan/99 39 20. JAN.1999 PAGE: 113

SUMMAR\ OF RESUI TS
********* ******** ***

HEEL AXI	ANGLE OF LOLL	ANGLE OF SWH	ANGLE 2ND INT	DF ANGLE	R. OF STAB.	MIN DF CLEAR	ANGLE O F DAM RA	VCG T.
0	0	1	99,99	29,17	28,16	22,5	2	17,82
10	0	1,07	99,99	27,94	26,88	22,49	2	21,04
20	0	1,11	99,99	27,32	26,21	22,48	2	21,21
30	0	1,12	99,99	26,98	25,87	22,48	2	21,94
40	0	1,06	99,99	26,73	25,68	22,48	2	23,33
50	0	0,95	99,99	26,32	25,37	22,49	2	25,09
60	0	0,84	99,99	25,71	24,87	22,5	2	27,44
70	0	0,72	99,99	24,99	24,28	22,5	1	30,33
80	0	0,59	99,99	24,4	23,81	22,5	1	33,73
90	0	0,45	99,99	24,59	24,14	22,51	1	35,84
270	0	99,99	99,99	26,03	99,99	99,99	99,99	-50
280	0	99,99	99,99	24,34	99,99	99,99	99,99	-50

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA DE SOUZA
DIRETOR
DIVISÃO DE SERVIÇOS JUDICIAIS

DIVISÃO DE DOCUMENTAÇÃO
TRIBUNAL MARÍTIMO

290	0	0,14	99,99	24,62	24,48	22,54	1	40,51
300	0	0,31	99,99	25,29	24,97	22,54	1	36,23
310	0	0,48	99,99	25,92	25,44	22,53	1	31,21
320	0	0,64	99,99	26,34	25,7	22,52	1	26,49
330	0	0,77	99,99	26,87	26,1	22,51	2	22,99
340	0	0,87	99,99	27,73	26,86	22,51	2	20,47
350	0	0,94	99,99	29,26	28,32	22,51	2	18,82

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS No	**7/15/2177**
Project	**P36 Roncador**
Client	**Petromec**
Date	**18-jan-1999**
By	**MSE**
Checked	
Title	**Stability Analysis Results**
Condition	**Transit Condition**
Draft	**11,00 m**
Displacement	**37083 mT**
LCG (from FP)	**57,18 m**
TCG (+ve stbd)	**0,02 m**
VCG (abl)	**27,08 m**

Description	Genstab ID	Max Allowable VCG	Comments
Intact Condition			
Vessel Intact	I310	50,26	
Damaged Condition			
Lower Hull			
S.W. Bal Tk 1s	D320	47,441	
S.W. Bal Tk 4s	D321	48,061	
S.W. Bal Tk 13s	D322	46,161	
S.W. Bal Tk 18s	D323	46,401	
S.W. Bal Tk 20s	D324	48,001	
S.W. Bal Tk 21s	D325	47,691	
S.W. Bal Tk 22s	D326	46,931	
S.W. Bal Tk 18s & C/L 10S	D327	**44,901**	

* Values superceeded by modifications to tanks

Limiting KG	**44,90 m**	S.W. Bal Tk 18s & C/L 10S
Actual KG	**27,08 m**	
Stabillty Margin	**17,82 m**	

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS No	**7/15/2166**
Project	**P36 Roncador**
Client	**Petromec**
Date	**18-jan-1999**
By	**MSE**
Checked	
Title	**Stability Analysis Results**
Condition	**Transit Condition**
Draft	**11,00 m**
Displacement	**37083 mT**
LCG (from FP)	**57,18 m**
TCG (+ve stbd)	**0,02 m**
VCG (abl)	**27,08 m**

Description	Genstab ID	Max Allowable VCG	Comments
Intact Condition			
Vessel Intact	I310	50,26	
Damaged Condition			
Lower Hull			
S.W. Bal Tk 1s	D320	47,441	
S.W. Bal Tk 4s	D321	48,061	
S.W. Bal Tk 13s	D322	46,161	
S.W. Bal Tk 18s	D323	46,401	
S.W. Bal Tk 20s	D324	48,001	
S.W. Bal Tk 21s	D325	47,691	
S.W. Bal Tk 22s	D326	46,931	
S.W. Bal Tk 18s & C/L 10S	D327	**44,901**	

* Values superceeded by modifications to tanks

Limiting KG	**44,90 m**	S.W. Bal Tk 18s & C/L 10S
Actual KG	**27,08 m**	
Stabilty Margin	**17,82 m**	

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIAL
2723
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**
Condition	**Transit Condition - Intact**
Draft	**11,00 m**
Displacement	**37083 mT**
LCG (from FP)	**57,18 m**
TCG (+ve stbd)	**0,02 m**
VCG (abl)	**27,08 m**
Genstab Run ID	**i310**

WS No	**7/15/2177**
Project	**P36 Roncador**
Client	**Petromec**
Date	**18-jan-1999**
By	**MSE**
Checked	

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	Area Ratio	δ VCG
0	90	0,0	0,54	99,99	30,37	29,83	22,75	12,85	23,18
10	80	0,0	0,55	99,99	28,43	27,88	22,75	11,81	23,26
20	70	0,0	0,57	99,99	27,69	27,12	22,74	10,72	23,78
30	60	0,0	0,57	99,99	27,39	26,82	22,73	9,92	24,97
40	50	0,0	0,54	99,99	27,14	26,60	22,73	9,63	27,00
50	40	0,0	0,48	99,99	26,73	26,25	22,73	9,99	29,70
60	30	0,0	0,40	99,99	26,16	25,76	22,74	11,12	33,62
70	20	0,0	0,32	99,99	25,55	25,22	22,76	13,13	37,96
80	10	0,0	0,27	99,99	25,22	24,95	22,77	15,83	40,64
90	0	0,0	0,25	99,99	26,34	26,09	22,78	18,25	41,68
270	180	0,0	0,24	99,99	35,94	35,70	22,84	20,31	40,85
280	170	0,0	0,26	99,99	25,19	24,93	22,84	16,33	40,22
290	160	0,0	0,32	99,99	25,35	25,04	22,83	13,57	38,46
300	150	0,0	0,40	99,99	25,94	25,54	22,82	11,50	34,68
310	140	0,0	0,48	99,99	26,55	26,07	22,80	10,32	30,78
320	130	0,0	0,54	99,99	27,00	26,46	22,79	9,94	27,85
330	120	0,0	0,57	99,99	27,29	26,72	22,78	10,19	25,56
340	110	0,0	0,57	99,99	27,70	27,13	22,77	10,95	24,15
350	100	0,0	0,55	99,99	28,74	28,19	22,76	12,02	23,44

Minimum Increase in Allowable VCG = 23,18
Maximum Allowable VCG = 50,26

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL QUEIROZ
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
2724
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d320**		
Space Damaged	**S.W. Bal Tk 1s**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	1,14	1,54	99,99	28,81	27,27	22,41	2,00	21,20
10	80	0,00	1,30	99,99	29,40	28,10	22,41	2,00	21,36
20	70	0,00	1,04	99,99	27,79	26,75	22,41	2,00	20,36
30	60	0,00	0,75	99,99	26,80	26,06	22,41	2,00	23,44
40	50	0,00	0,44	99,99	26,19	25,75	22,42	1,00	27,47
50	40	0,00	0,12	99,99	25,94	25,82	22,43	1,00	32,52
60	30	0,00	99,99	99,99	25,69	99,99	99,99	99,99	*
70	20	0,00	99,99	99,99	25,26	99,99	99,99	99,99	*
80	10	0,00	99,99	99,99	25,08	99,99	99,99	99,99	*
90	0	0,00	99,99	99,99	26,30	99,99	99,99	99,99	*
270	180	1,15	1,36	99,99	25,48	24,12	22,47	2,00	30,82
280	170	1,32	1,56	99,99	24,60	23,04	22,46	2,00	29,14
290	160	1,46	1,77	99,99	24,95	23,18	22,45	3,00	27,25
300	150	1,56	1,95	99,99	25,52	23,57	22,44	3,00	25,40
310	140	1,61	2,08	99,99	26,08	24,00	22,42	3,00	23,87
320	130	1,61	2,13	99,99	26,46	24,33	22,41	3,00	22,70
330	120	1,56	2,08	99,99	26,69	24,61	22,41	3,00	21,64
340	110	1,46	1,95	99,99	27,01	25,06	22,41	3,00	21,09
350	100	1,32	1,76	99,99	27,64	25,88	22,41	3,00	21,02

Minimum Increase In Allowable VCG = 20,36
Maximum Allowable VCG = 47,441

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PACHECO GUIMARÃES
DIRETOR
DIVISÃO DE ESTUDOS E CONTROLE

TRIBUNAL MARITIMO 2725

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d321**		
Space Damaged	**S.W. Bal Tk 4s**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	1,21	1,61	99,99	29,32	27,70	22,45	3,00	21,11
10	80	1,05	1,44	99,99	29,16	27,72	22,45	2,00	21,40
20	70	0,00	1,24	99,99	27,75	26,52	22,44	2,00	22,20
30	60	0,00	0,98	99,99	26,93	25,95	22,45	2,00	23,61
40	50	0,00	0,71	99,99	26,39	25,68	22,46	2,00	24,70
50	40	0,00	0,43	99,99	25,97	25,54	22,46	1,00	30,36
60	30	0,00	0,14	99,99	25,30	25,16	22,47	1,00	36,25
70	20	0,00	99,99	99,99	24,60	99,99	99,99	99,99	*
80	10	0,00	99,99	99,99	24,35	99,99	99,99	99,99	*
90	0	0,00	99,99	99,99	25,86	99,99	99,99	99,99	*
270	180	0,00	0,99	99,99	25,07	24,08	22,51	2,00	32,65
280	170	0,00	1,23	99,99	24,41	23,18	22,50	2,00	31,20
290	160	1,16	1,47	99,99	24,84	23,37	22,49	2,00	29,05
300	150	1,31	1,69	99,99	25,51	23,81	22,47	3,00	26,75
310	140	1,41	1,87	99,99	26,13	24,27	22,46	3,00	24,79
320	130	1,47	1,96	99,99	26,57	24,61	22,45	3,00	23,19
330	120	1,47	1,97	99,99	26,84	24,86	22,44	3,00	21,87
340	110	1,42	1,90	99,99	27,23	25,32	22,44	3,00	21,17
350	100	1,34	1,77	99,99	27,96	26,18	22,45	3,00	20,98

Minimum Increase in Allowable VCG = 20,98
Maximum Allowable VCG = 48,061

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-Jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d322**		
Space Damaged	**S.W. Bal Tk 13s**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	1,02	99,99	29,99	28,97	22,50	2,00	19,11
10	80	0,00	1,03	99,99	28,34	27,32	22,50	2,00	19,08
20	70	0,00	1,01	99,99	27,50	26,49	22,49	2,00	22,28
30	60	0,00	0,96	99,99	27,06	26,10	22,49	2,00	23,53
40	**50**	0,00	0,88	99,99	26,77	25,89	22,49	2,00	25,61
50	40	0,00	0,76	99,99	26,34	25,57	22,49	2,00	28,08
60	30	0,00	0,63	99,99	25,71	25,08	22,49	1,00	31,36
70	20	0,00	0,49	99,99	25,01	24,53	22,49	1,00	35,44
80	10	0,00	0,34	99,99	24,50	24,16	22,50	1,00	38,68
90	0	0,00	0,19	99,99	24,94	24,75	22,51	1,00	40,93
270	180	0,00	0,09	99,99	25,52	25,43	22,54	1,00	41,65
280	170	0,00	0,24	99,99	24,44	24,20	22,54	1,00	39,89
290	160	0,00	0,40	99,99	24,79	24,38	22,53	1,00	37,30
300	150	0,00	0,55	99,99	25,46	24,91	22,53	1,00	33,79
310	140	0,00	0,69	99,99	26,13	25,44	22,53	1,00	29,94
320	130	0,00	0,82	99,99	26,59	25,77	22,52	2,00	26,84
330	120	0,00	0,92	99,99	26,96	26,04	22,51	2,00	24,38
340	110	0,00	0,98	99,99	27,57	26,60	22,51	2,00	20,70
350	100	0,00	1,01	99,99	28,77	27,76	22,50	2,00	19,61

Minimum Increase in Allowable VCG = 19,08
Maximum Allowable VCG = 46,161

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PACHECO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
2727
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d323**		
Space Damaged	**S.W. Bal Tk 18s**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	1,00	99,99	29,47	28,47	22,50	2,00	19,32
10	80	0,00	1,06	99,99	28,09	27,02	22,50	2,00	21,64
20	70	0,00	1,11	99,99	27,42	26,32	22,49	2,00	22,02
30	60	0,00	1,11	99,99	27,10	25,99	22,48	2,00	23,08
40	50	0,00	1,05	99,99	26,85	25,79	22,48	2,00	24,98
50	40	0,00	0,95	99,99	26,44	25,49	22,49	2,00	27,05
60	30	0,00	0,84	99,99	25,83	24,99	22,50	2,00	29,70
70	20	0,00	0,72	99,99	25,15	24,43	22,50	1,00	32,58
80	10	0,00	0,59	99,99	24,62	24,03	22,50	1,00	35,85
90	0	0,00	0,45	99,99	25,01	24,56	22,51	1,00	37,85
270	180	0,00	99,99	99,99	26,03	99,99	99,99	99,99	*
280	170	0,00	99,99	99,99	24,39	99,99	99,99	99,99	*
290	160	0,00	0,14	99,99	24,73	24,58	22,54	1,00	40,52
300	150	0,00	0,31	99,99	25,43	25,12	22,54	1,00	36,38
310	140	0,00	0,48	99,99	26,12	25,64	22,53	1,00	31,87
320	130	0,00	0,64	99,99	26,58	25,94	22,52	1,00	27,62
330	120	0,00	0,77	99,99	26,99	26,22	22,51	2,00	24,15
340	110	0,00	0,87	99,99	27,71	26,84	22,51	2,00	21,70
350	100	0,00	0,94	99,99	29,11	28,17	22,51	2,00	20,19

Minimum Increase in Allowable VCG = 19,32
Maximum Allowable VCG = 46,401

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d324**		
Space Damaged	**S.W. Bal Tk 20s**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	1,06	1,48	99,99	28,88	27,39	22,29	2,00	21,03
10	80	1,17	1,62	99,99	27,77	26,15	22,27	3,00	20,92
20	70	1,25	1,73	99,99	27,24	25,51	22,26	3,00	20,99
30	60	1,28	1,78	99,99	26,96	25,17	22,25	3,00	21,59
40	50	1,27	1,76	99,99	26,74	24,97	22,24	3,00	22,81
50	40	1,20	1,67	99,99	26,35	24,68	22,24	3,00	24,33
60	30	1,09	1,49	99,99	25,75	24,27	22,26	2,00	26,35
70	20	0,00	1,25	99,99	25,05	23,80	22,29	2,00	29,00
80	10	0,00	1,01	99,99	24,46	23,45	22,33	2,00	31,91
90	0	0,00	0,83	99,99	24,63	23,79	22,32	1,00	33,76
270	180	0,00	99,99	99,99	30,27	99,99	99,99	99,99	*
280	170	0,00	99,99	99,99	24,41	99,99	99,99	99,99	*
290	160	0,00	99,99	99,99	24,48	99,99	99,99	99,99	*
300	150	0,00	0,21	99,99	25,17	24,96	22,38	1,00	37,25
310	140	0,00	0,46	99,99	25,86	25,41	22,37	1,00	31,57
320	130	0,00	0,70	99,99	26,27	25,57	22,35	2,00	25,78
330	120	0,00	0,93	99,99	26,85	25,92	22,34	2,00	24,27
340	110	0,00	1,15	99,99	27,81	26,66	22,32	2,00	22,40
350	100	0,00	1,32	99,99	29,50	28,17	22,30	2,00	21,74

Minimum Increase in Allowable VCG = 20,92
Maximum Allowable VCG = 48,001

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

JOSÉ CARLOS PIMENTEL GUERRÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
2729
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d325**		
Space Damaged	**S.W. Bal Tk 21s**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	1,09	1,55	99,99	28,34	26,79	22,10	3,00	21,13
10	80	1,27	1,76	99,99	27,42	25,66	22,09	3,00	20,70
20	70	1,40	1,94	99,99	26,98	25,05	22,08	3,00	20,61
30	60	1,48	2,05	99,99	26,76	24,71	22,06	3,00	21,02
40	50	1,52	2,08	99,99	26,60	24,52	22,06	3,00	21,86
50	40	1,51	2,01	99,99	26,28	24,27	22,07	3,00	22,90
60	30	1,46	1,87	99,99	25,75	23,88	22,09	3,00	24,48
70	20	1,36	1,68	99,99	25,12	23,44	22,11	3,00	26,58
80	10	1,21	1,46	99,99	24,59	23,13	22,13	2,00	28,91
90	0	1,02	1,23	99,99	24,85	23,62	22,15	2,00	30,63
270	180	0,00	99,99	99,99	35,84	99,99	99,99	99,99	*
280	170	0,00	99,99	99,99	25,07	99,99	99,99	99,99	*
290	160	0,00	99,99	99,99	25,06	99,99	99,99	99,99	*
300	150	0,00	99,99	99,99	25,44	99,99	99,99	99,99	*
310	140	0,00	0,17	99,99	25,70	25,52	22,20	1,00	33,35
320	130	0,00	0,48	99,99	26,00	25,51	22,17	1,00	28,06
330	120	0,00	0,79	99,99	26,69	25,90	22,15	2,00	24,92
340	110	0,00	1,05	99,99	27,88	26,82	22,14	2,00	22,74
350	100	0,00	1,31	99,99	29,87	28,56	22,12	2,00	21,86

Minimum Increase in Allowable VCG = 20,61
Maximum Allowable VCG = 47,691

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
2730
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d326**		
Space Damaged	**S.W. Bal Tk 22s**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	1,57	2,04	99,99	28,21	26,17	21,96	3,00	20,56
10	80	1,76	2,29	99,99	27,36	25,07	21,94	3,00	20,03
20	70	1,90	2,49	99,99	26,96	24,47	21,92	4,00	19,85
30	60	1,97	2,62	99,99	26,76	24,14	21,90	4,00	20,14
40	50	1,99	2,63	99,99	26,59	23,97	21,90	4,00	20,85
50	40	1,96	2,52	99,99	26,26	23,74	21,91	4,00	21,83
60	30	1,87	2,32	99,99	25,71	23,39	21,93	3,00	23,34
70	20	1,72	2,06	99,99	25,03	22,97	21,97	3,00	25,46
80	10	1,50	1,76	99,99	24,42	22,66	21,99	3,00	27,93
90	0	1,25	1,45	99,99	24,48	23,02	22,02	2,00	30,01
270	180	0,00	99,99	99,99	35,91	99,99	99,99	99,99	*
280	170	0,00	99,99	99,99	24,92	99,99	99,99	99,99	*
290	160	0,00	99,99	99,99	24,71	99,99	99,99	99,99	*
300	150	0,00	99,99	99,99	25,05	99,99	99,99	99,99	*
310	140	0,00	0,32	99,99	25,46	25,14	22,06	1,00	32,33
320	130	0,00	0,71	99,99	25,90	25,18	22,02	2,00	27,30
330	120	0,00	1,10	99,99	26,66	25,56	22,00	2,00	24,12
340	110	1,03	1,46	99,99	27,94	26,48	21,98	2,00	22,56
350	100	1,32	1,77	99,99	29,95	28,18	21,97	3,00	21,36

Minimum Increase in Allowable VCG = 19,85
Maximum Allowable VCG = 46,931

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Transit Condition - Damaged**	**Project**	**P36 Roncador**
Draft	**11,00 m**	**Client**	**Petromec**
Displacement	**37083 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,18 m**	**By**	**MSE**
TCG (+ve stbd)	**0,02 m**	**Checked**	
VCG (abl)	**27,08 m**		
Genstab Run ID	**d327**		
Space Damaged	**S.W. Bal Tk 18s & C/L 10S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	1,00	99,99	29,17	28,16	22,50	2,00	17,82
10	80	0,00	1,07	99,99	27,94	26,88	22,49	2,00	21,04
20	70	0,00	1,11	99,99	27,32	26,21	22,48	2,00	21,21
30	60	0,00	1,12	99,99	26,98	25,87	22,48	2,00	21,94
40	50	0,00	1,06	99,99	26,73	25,68	22,48	2,00	23,33
50	40	0,00	0,95	99,99	26,32	25,37	22,49	2,00	25,09
60	30	0,00	0,84	99,99	25,71	24,87	22,50	2,00	27,44
70	20	0,00	0,72	99,99	24,99	24,28	22,50	1,00	30,33
80	10	0,00	0,59	99,99	24,40	23,81	22,50	1,00	33,73
90	0	0,00	0,45	99,99	24,59	24,14	22,51	1,00	35,84
270	180	0,00	99,99	99,99	26,03	99,99	99,99	99,99	*
280	170	0,00	99,99	99,99	24,34	99,99	99,99	99,99	*
290	160	0,00	0,14	99,99	24,62	24,48	22,54	1,00	40,51
300	150	0,00	0,31	99,99	25,29	24,97	22,54	1,00	36,23
310	140	0,00	0,48	99,99	25,92	25,44	22,53	1,00	31,21
320	130	0,00	0,64	99,99	26,34	25,70	22,52	1,00	26,49
330	120	0,00	0,77	99,99	26,87	26,10	22,51	2,00	22,99
340	110	0,00	0,87	99,99	27,73	26,86	22,51	2,00	20,47
350	100	0,00	0,94	99,99	29,26	28,32	22,51	2,00	18,82

Minimum Increase in Allowable VCG = 17,82
Maximum Allowable VCG = 44,901

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
0432
TRIBUNAL MARÍTIMO

WS No	**7/15/2177**
Project	**P36 Roncador**
Client	**Petromec**
Date	**18-jan-1999**
By	**MSE**
Checked	
Title	**Stability Analysis Results**
Condition	**Inspection of Fairleads**
Draft	**18,00 m**
Displacement	**50390 mT**
LCG (from FP)	**57,12 m**
TCG (+ve stbd)	**0,03 m**
VCG (abl)	**24,56 m**

Description	Genstab ID	Max Allowable VCG	Comments
Intact Condition			
Vessel Intact	I210	27,61	
Damaged Condition			
Columns			
Base Oil Tank N1	D227	29,13	Subdivide compartment
Void Space 32 Stbd 3 (subdivided)	D226	29,66	Formerly part of VS32 Stbd 1
Fairlead Boxes & Extensions			
Void Space 46S	D224	29,46	
Void Space 45S	D225	29,34	
Void Space 65S (modified)	D228	25,25	Formerly part of VS 46aS
Void Space 64S (modified)	D229	**25,23**	Formerly part of VS 45aS
Void Space 46aS (modified)	D230	29,52	
Void Space 45aS (modified)	D231	29,42	
Accidental Flooding			
Lower Hull			
S.W. Bal Tk 21s	A231	-	
S.W. Bal Tk 22s	A232	-	

* Values superceeded by modifications to tanks

Limiting KG	**25,23 m**	Void Space 64S
Actual KG	**24,56 m**	
Stability Margin	**0,67 m**	

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

WS No	**7/15/2177**
Project	**P36 Roncador**
Client	**Petromec**
Date	**18-jan-1999**
By	**MSE**
Checked	
Title	**Stability Analysis Results**
Condition	**Inspection of Fairleads**
Draft	**18,00 m**
Displacement	**50390 mT**
LCG (from FP)	**57,12 m**
TCG (+ve stbd)	**0,03 m**
VCG (abl)	**24,56 m**

Description	Genstab ID	Max Allowable VCG	Comments
Intact Condition			
Vessel Intact	I210	27,61	
Damaged Condition			
Columns			
Void Space 32 Stbd 1 (unmodified)	D221	24,730 *	Subdivide compartment
Base Oil Tank N1	D227	29,130 *	Subdivide compartment
Fairlead Boxes & Extensions			
Void Space 46aS (As-built)	D222	24,430 *	Subdivide compartment
Void Space 45aS (As-built)	D223	24,420 *	Subdivide compartment
Void Space 46S	D224	29,46	
Void Space 45S	D225	29,34	
Fairlead Box & Void Space 65S	D232	28,57	Results N/A as fairleads/chains will
Fairlead Box & Void Space 64S	D233	28,74	prevent damage
New/Rearranged Compartments			
Void Space 32 Stbd 3 (subdivided)	D226	29,66	Formerly part of VS32 Stbd 1
Void Space 65S (modified)	D228	25,25	Formerly part of VS 46aS
Void Space 64S (modified)	D229	**25,23**	Formerly part of VS 45aS
Void Space 46aS (modified)	D230	29,52	
Void Space 45aS (modified)	D231	29,42	
Void Space 100	D234	29,56	Formerly part of Base Oil Tank N1
Accidental Flooding			
Lower Hull			
S.W. Bal Tk 21s	A231	-	
S.W. Bal Tk 22s	A232	-	

* Values superceeded by modifications to tanks

Limiting KG	**25,23 m** Void Space 64S
Actual KG	**24,56 m**
Stability Margin	**0,67 m**

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
9734
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Intact**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**I210**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	Area Ratio	δ VCG
0	90	0,0	8,34	99,99	25,80	17,46	14,71	3,11	4,72
10	80	0,0	8,24	99,99	25,04	16,80	14,65	2,90	4,61
20	70	0,0	7,95	99,99	23,94	15,99	14,56	2,68	3,05
30	60	0,0	7,55	99,99	22,52	14,96	14,48	2,58	4,82
40	50	0,0	7,07	99,99	20,91	13,84	14,43	2,68	5,55
50	40	0,0	6,58	99,99	19,80	13,22	14,45	3,04	7,02
60	30	0,0	6,23	99,99	20,39	14,16	14,50	3,74	8,64
70	20	0,0	6,04	99,99	21,15	15,11	14,55	4,56	9,81
80	10	0,0	5,82	99,99	22,45	16,64	14,61	5,70	11,18
90	0	0,0	5,75	99,99	25,91	20,16	14,66	7,54	12,59
270	180	0,0	5,80	99,99	25,63	19,82	15,19	7,79	13,19
280	170	0,0	5,78	99,99	22,33	16,55	15,16	5,92	11,70
290	160	0,0	6,01	99,99	21,04	15,03	15,10	4,75	10,28
300	150	0,0	6,20	99,99	20,27	14,08	15,02	3,91	9,07
310	140	0,0	6,52	99,99	19,62	13,10	14,96	3,19	7,44
320	130	0,0	7,02	99,99	20,77	13,75	14,80	2,79	6,13
330	120	0,0	7,50	99,99	22,52	15,02	14,71	2,69	5,22
340	110	0,0	7,91	99,99	24,08	16,17	14,66	2,78	4,85
350	100	0,0	8,23	99,99	25,32	17,09	14,66	3,01	4,76

Minimum Increase in Allowable VCG = 3,05
Maximum Allowable VCG = 27,61

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Damaged**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**D221**		
Space Damaged	**Void Space 32 Stbd 1 (Unmodified)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,58	99,99	25,42	22,84	15,52	9,00	0,46
10	80	0,00	2,68	99,99	25,22	22,54	15,43	9,00	0,71
20	70	0,00	2,91	99,99	24,02	21,11	15,34	9,00	1,02
30	60	0,00	3,15	99,99	22,44	19,28	15,27	7,00	1,84
40	**50**	0,00	3,24	99,99	20,55	17,31	15,21	7,00	5,52
50	40	0,00	3,10	99,99	18,62	15,52	15,21	7,00	7,36
60	30	0,00	2,78	99,99	20,32	17,54	15,25	6,00	9,93
70	20	0,00	2,40	99,99	21,15	18,75	15,32	6,00	10,95
80	10	0,00	2,09	99,99	22,45	20,36	15,39	5,00	12,13
90	0	0,00	1,97	99,99	25,91	23,93	15,43	5,00	13,37
270	180	0,00	2,04	99,99	23,47	21,43	15,97	6,00	1,06
280	170	0,00	2,17	99,99	21,38	19,21	15,92	6,00	0,59
290	160	0,00	2,68	99,99	20,42	17,74	15,81	7,00	0,17
300	150	0,00	5,26	99,99	19,57	14,30	15,18	7,00	6,70
310	140	0,00	6,03	99,99	19,27	13,24	15,00	8,00	5,45
320	130	0,00	6,22	99,99	20,49	14,28	14,94	8,00	4,65
330	120	0,00	6,28	99,99	22,20	15,91	14,92	9,00	4,08
340	110	0,00	6,07	99,99	23,65	17,57	14,96	9,00	3,74
350	100	0,00	2,75	99,99	24,73	21,98	15,58	9,00	0,18

Minimum Increase in Allowable VCG = 0,17
Maximum Allowable VCG = 24,730

Title	Stability Analysis Results
Condition	Inspection - Damaged
Draft	18,00 m
Displacement	50390 mT
LCG (from FP)	57,12 m
TCG (+ve stbd)	0,03 m
VCG (abl)	24,56 m
Genstab Run ID	D222
Space Damaged	Void Space 46aS (As-built)

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	3,31	99,99	25,78	22,47	15,51	9,00	0,05
10	80	0,00	3,12	99,99	25,16	22,04	15,44	10,00	0,21
20	70	0,00	3,14	99,99	24,00	20,86	15,33	10,00	0,56
30	60	0,00	3,24	99,99	22,49	19,25	15,25	9,00	0,92
40	50	0,00	3,24	99,99	20,70	17,46	15,21	7,00	5,55
50	40	0,00	3,10	99,99	18,95	15,85	15,21	7,00	6,52
60	30	0,00	2,78	99,99	20,35	17,56	15,25	6,00	9,94
70	20	0,00	2,40	99,99	21,15	18,75	15,32	6,00	10,95
80	10	0,00	2,09	99,99	22,45	20,36	15,39	5,00	12,13
90	0	0,00	1,97	99,99	25,91	23,93	15,43	5,00	13,37
270	180	0,00	2,51	99,99	24,10	21,58	15,82	6,00	12,07
280	170	0,00	2,91	99,99	21,70	18,79	15,72	6,00	0,36
290	160	0,00	3,97	4,09	20,65	0,12	15,48	7,00	-0,08
300	150	0,00	5,73	99,99	19,84	14,11	15,05	7,00	7,93
310	140	0,00	6,24	99,99	19,39	13,15	14,91	8,00	6,39
320	130	0,00	6,54	99,99	20,62	14,08	14,83	8,00	5,43
330	120	0,00	6,71	99,99	22,35	15,64	14,79	9,00	4,83
340	110	0,00	6,61	99,99	23,85	17,23	14,80	9,00	4,43
350	100	0,00	4,00	4,01	24,99	0,02	15,48	9,00	-0,13

Minimum Increase in Allowable VCG = -0,13

Maximum Allowable VCG = 24,430

CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO MACHADO
DIRETOR
CLASSIFICAÇÃO DE SERVIÇOS CARTORIAIS

Title	Stability Analysis Results
Condition	Inspection - Damaged
Draft	18,00 m
Displacement	50390 mT
LCG (from FP)	57,12 m
TCG (+ve stbd)	0,03 m
VCG (abl)	24,56 m
Genstab Run ID	D223
Space Damaged	Void Space 45aS (As-built)

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	3,28	99,99	25,35	22,08	15,32	9,00	0,05
10	80	0,00	3,91	4,35	24,72	0,44	15,14	9,00	-0,14
20	70	0,00	6,68	99,99	23,71	17,03	14,45	9,00	4,18
30	60	0,00	6,80	99,99	22,35	15,55	14,39	9,00	4,47
40	**50**	0,00	6,60	99,99	20,77	14,16	14,39	9,00	4,99
50	40	0,00	6,29	99,99	19,56	13,26	14,41	8,00	6,04
60	30	0,00	5,86	99,99	19,89	14,03	14,48	7,00	7,51
70	20	0,00	3,85	4,42	20,73	0,57	14,96	7,00	-0,06
80	10	0,00	2,82	99,99	21,79	18,97	15,19	7,00	0,37
90	0	0,00	2,42	99,99	24,31	21,88	15,29	6,00	11,54
270	180	0,00	2,04	99,99	25,63	23,59	15,97	5,00	13,97
280	170	0,00	2,15	99,99	22,33	20,18	15,93	5,00	12,66
290	160	0,00	2,45	99,99	21,04	18,59	15,86	6,00	11,43
300	150	0,00	2,84	99,99	20,24	17,40	15,79	6,00	10,38
310	140	0,00	3,15	99,99	18,72	15,57	15,75	7,00	7,35
320	130	0,00	3,28	99,99	20,58	17,30	15,70	7,00	5,88
330	120	0,00	3,28	99,99	22,50	19,23	15,66	9,00	1,08
340	110	0,00	3,15	99,99	24,15	21,00	15,57	10,00	0,55
350	100	0,00	3,12	99,99	25,45	22,33	15,43	10,00	0,25

Minimum Increase in Allowable VCG = -0,14

Maximum Allowable VCG = 24,420

CÓPIA FIEL DO DOCUMENTO ORIGINAL

TRIBUNAL MARITIMO 2730

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Damaged**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-Jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**D224**		
Space Damaged	**Void Space 46S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	3,16	99,99	25,92	22,76	15,52	8,00	4,95
10	80	0,00	2,96	99,99	25,12	22,16	15,43	8,00	4,90
20	70	0,00	3,05	99,99	23,98	20,93	15,34	8,00	5,07
30	60	0,00	3,19	99,99	22,50	19,31	15,27	8,00	5,57
40	50	0,00	3,24	99,99	20,79	17,55	15,21	7,00	6,48
50	40	0,00	3,10	99,99	19,32	16,22	15,21	7,00	8,08
60	30	0,00	2,78	99,99	20,39	17,61	15,25	6,00	9,96
70	20	0,00	2,40	99,99	21,15	18,75	15,32	6,00	10,95
80	10	0,00	2,09	99,99	22,45	20,36	15,39	5,00	12,13
90	0	0,00	1,97	99,99	25,91	23,93	15,43	5,00	13,37
270	180	0,00	2,60	99,99	24,81	22,21	15,80	6,00	12,87
280	170	0,00	3,00	99,99	22,04	19,04	15,70	6,00	11,46
290	160	0,00	3,78	99,99	20,87	17,10	15,53	7,00	10,13
300	150	0,00	4,77	99,99	20,11	15,34	15,33	7,00	9,07
310	140	0,00	5,20	99,99	19,54	14,34	15,26	7,00	7,60
320	130	0,00	5,38	99,99	20,69	15,31	15,20	8,00	6,45
330	120	0,00	5,22	99,99	22,42	17,19	15,22	8,00	5,68
340	110	0,00	4,42	99,99	23,93	19,51	15,39	8,00	5,17
350	100	0,00	3,60	99,99	25,11	21,52	15,57	8,00	4,94

Minimum Increase in Allowable VCG = 4,90
Maximum Allowable VCG = 29,460

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
CARTÃO DE SERVIÇO DA CAPITANIA

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Title	Stability Analysis Results	WS No	7/15/2177
Condition	Inspection - Damaged	Project	P36 Roncador
Draft	18,00 m	Client	Petromec
Displacement	50390 mT	Date	18-Jan-1999
LCG (from FP)	57,12 m	By	MSE
TCG (+ve stbd)	0,03 m	Checked	
VCG (abl)	24,56 m		
Genstab Run ID	D225		
Space Damaged	Void Space 45S		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	3,13	99,99	25,53	22,40	15,35	8,00	4,87
10	80	0,00	3,56	99,99	24,84	21,28	15,21	8,00	4,78
20	70	0,00	4,31	99,99	23,79	19,48	15,02	8,00	4,93
30	60	0,00	5,16	99,99	22,42	17,26	14,80	8,00	5,31
40	50	0,00	5,40	99,99	20,84	15,44	14,70	8,00	5,98
50	40	0,00	5,19	99,99	19,72	14,53	14,73	7,00	7,22
60	30	0,00	4,66	99,99	20,22	15,56	14,81	7,00	8,65
70	20	0,00	3,67	99,99	20,97	17,30	15,00	7,00	9,67
80	10	0,00	2,91	99,99	22,15	19,24	15,17	6,00	10,94
90	0	0,00	2,51	99,99	25,02	22,52	15,27	6,00	12,29
270	180	0,00	2,04	99,99	25,63	23,59	15,97	5,00	13,97
280	170	0,00	2,15	99,99	22,33	20,18	15,93	5,00	12,66
290	160	0,00	2,45	99,99	21,04	18,59	15,86	6,00	11,43
300	150	0,00	2,84	99,99	20,27	17,44	15,79	6,00	10,39
310	140	0,00	3,15	99,99	19,08	15,93	15,75	7,00	8,47
320	130	0,00	3,28	99,99	20,67	17,38	15,70	7,00	6,90
330	120	0,00	3,22	99,99	22,52	19,30	15,69	7,00	5,82
340	110	0,00	3,09	99,99	24,13	21,03	15,56	8,00	5,24
350	100	0,00	2,96	99,99	25,41	22,44	15,50	8,00	5,02

Minimum Increase in Allowable VCG = 4,78
Maximum Allowable VCG = 29,340

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SEGURANÇA CARTORIAL

TRIBUNAL MARITIMO
2740

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Damaged**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**D226**		
Space Damaged	**Void Space 32 Stbd 3 (New Subdivided Compartment)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,58	99,99	25,91	23,33	15,52	7,00	5,11
10	80	0,00	2,68	99,99	25,11	22,44	15,43	7,00	5,10
20	70	0,00	2,91	99,99	23,97	21,06	15,34	7,00	5,34
30	60	0,00	3,15	99,99	22,50	19,34	15,27	7,00	5,89
40	50	0,00	3,24	99,99	20,81	17,57	15,21	7,00	6,78
50	40	0,00	3,10	99,99	19,60	16,50	15,21	7,00	8,39
60	30	0,00	2,78	99,99	20,39	17,61	15,25	6,00	9,96
70	20	0,00	2,40	99,99	21,15	18,75	15,32	6,00	10,95
80	10	0,00	2,09	99,99	22,45	20,36	15,39	5,00	12,13
90	0	0,00	1,97	99,99	25,91	23,93	15,43	5,00	13,37
270	180	0,00	2,04	99,99	24,84	22,81	15,97	5,00	12,79
280	170	0,00	2,16	99,99	22,06	19,91	15,93	6,00	11,45
290	160	0,00	2,49	99,99	20,88	18,39	15,85	6,00	10,23
300	150	0,00	2,95	99,99	20,12	17,17	15,76	7,00	9,24
310	140	0,00	3,38	99,99	19,54	16,15	15,69	7,00	7,89
320	130	0,00	3,52	99,99	20,67	17,15	15,64	7,00	6,74
330	120	0,00	3,31	99,99	22,40	19,09	15,67	8,00	5,91
340	110	0,00	2,94	99,99	23,92	20,97	15,65	8,00	5,35
350	100	0,00	2,69	99,99	25,10	22,41	15,58	8,00	5,10

Minimum Increase in Allowable VCG = 5,10
Maximum Allowable VCG = 29,660

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO [illegible]
DIRETOR
DIVISÃO DE SERVIÇOS DATILOGRÁFICOS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Title	Stability Analysis Results	WS No	7/15/2177
Condition	Inspection - Damaged	Project	P36 Roncador
Draft	18,00 m	Client	Petromec
Displacement	50390 mT	Date	18-jan-1999
LCG (from FP)	57,12 m	By	MSE
TCG (+ve stbd)	0,03 m	Checked	
VCG (abl)	24,56 m		
Genstab Run ID	D227		
Space Damaged	Base Oil Tank N1		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,58	99,99	25,33	22,75	15,52	7,00	4,61
10	80	0,00	2,68	99,99	24,69	22,01	15,43	8,00	4,57
20	70	0,00	2,92	99,99	23,68	20,76	15,34	8,00	4,73
30	60	0,00	3,27	99,99	22,32	19,05	15,24	8,00	5,11
40	**50**	0,00	3,53	99,99	20,75	17,22	15,14	7,00	5,78
50	40	0,00	3,36	99,99	19,62	16,26	15,15	7,00	6,93
60	30	0,00	2,87	99,99	20,05	17,18	15,23	7,00	8,19
70	20	0,00	2,43	99,99	20,83	18,40	15,31	6,00	9,17
80	10	0,00	2,09	99,99	21,95	19,86	15,39	6,00	10,33
90	0	0,00	1,97	99,99	24,57	22,60	15,43	5,00	11,62
270	180	0,00	2,04	99,99	25,63	23,59	15,97	5,00	13,97
280	170	0,00	2,15	99,99	22,33	20,18	15,93	5,00	12,66
290	160	0,00	2,45	99,99	21,04	18,59	15,86	6,00	11,43
300	150	0,00	2,84	99,99	20,27	17,43	15,79	6,00	10,39
310	140	0,00	3,15	99,99	19,11	15,96	15,75	7,00	8,62
320	130	0,00	3,28	99,99	20,59	17,30	15,70	7,00	6,97
330	120	0,00	3,18	99,99	22,48	19,30	15,70	7,00	5,84
340	110	0,00	2,93	99,99	24,12	21,19	15,65	7,00	5,15
350	100	0,00	2,69	99,99	25,42	22,73	15,58	7,00	4,84

Minimum Increase in Allowable VCG = 4,57
Maximum Allowable VCG = 29,130

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

Title	Stability Analysis Results	WS No	7/15/2177
Condition	Inspection - Damaged	Project	P36 Roncador
Draft	18,00 m	Client	Petromec
Displacement	50390 mT	Date	18-jan-1999
LCG (from FP)	57,12 m	By	MSE
TCG (+ve stbd)	0,03 m	Checked	
VCG (abl)	24,56 m		
Genstab Run ID	D228		
Space Damaged	Void Space 65S		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,58	99,99	25,58	23,00	15,52	8,00	1,09
10	80	0,00	2,68	99,99	24,88	22,21	15,43	8,00	0,91
20	70	0,00	2,91	99,99	23,82	20,91	15,34	8,00	0,69
30	60	0,00	3,19	99,99	22,43	19,25	15,26	8,00	5,26
40	50	0,00	3,31	99,99	20,83	17,52	15,20	8,00	5,91
50	40	0,00	3,13	99,99	19,64	16,52	15,20	7,00	7,16
60	30	0,00	2,78	99,99	20,11	17,33	15,25	7,00	8,68
70	20	0,00	2,40	99,99	20,91	18,52	15,32	6,00	9,74
80	10	0,00	2,09	99,99	22,08	19,99	15,39	5,00	11,04
90	0	0,00	1,97	99,99	24,92	22,95	15,43	5,00	12,39
270	180	0,00	2,04	99,99	25,63	23,59	15,97	5,00	13,97
280	170	0,00	2,15	99,99	22,33	20,18	15,93	5,00	12,66
290	160	0,00	2,45	99,99	21,04	18,59	15,86	6,00	11,43
300	150	0,00	2,84	99,99	20,25	17,41	15,79	6,00	10,38
310	140	0,00	3,15	99,99	19,10	15,95	15,75	7,00	8,31
320	130	0,00	3,28	99,99	20,67	17,39	15,70	7,00	6,64
330	120	0,00	3,18	99,99	22,51	19,33	15,70	7,00	5,71
340	110	0,00	2,93	99,99	24,11	21,18	15,65	7,00	5,16
350	100	0,00	2,69	99,99	25,37	22,69	15,58	7,00	1,22

Minimum Increase in Allowable VCG = 0,69
Maximum Allowable VCG = 25,250

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
2743
TRIBUNAL MARÍTIMO

Title	Stability Analysis Results
Condition	Inspection - Damaged
Draft	18,00 m
Displacement	50390 mT
LCG (from FP)	57,12 m
TCG (+ve stbd)	0,03 m
VCG (abl)	24,56 m
Genstab Run ID	D229
Space Damaged	Void Space 64S

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,58	99,99	25,87	23,29	15,52	8,00	1,08
10	80	0,00	2,68	99,99	25,09	22,42	15,43	8,00	1,21
20	70	0,00	2,91	99,99	23,97	21,05	15,34	7,00	4,98
30	60	0,00	3,15	99,99	22,50	19,35	15,27	7,00	5,43
40	50	0,00	3,24	99,99	20,80	17,56	15,21	7,00	6,21
50	40	0,00	3,10	99,99	19,32	16,22	15,21	7,00	7,87
60	30	0,00	2,78	99,99	20,35	17,57	15,25	6,00	9,94
70	20	0,00	2,40	99,99	21,15	18,75	15,32	6,00	10,95
80	10	0,00	2,09	99,99	22,45	20,36	15,39	5,00	12,13
90	0	0,00	1,97	99,99	25,91	23,93	15,43	5,00	13,37
270	180	0,00	2,04	99,99	24,71	22,67	15,97	5,00	12,97
280	170	0,00	2,15	99,99	21,98	19,83	15,93	5,00	11,55
290	160	0,00	2,45	99,99	20,82	18,37	15,86	6,00	10,20
300	150	0,00	2,84	99,99	20,02	17,19	15,79	7,00	9,11
310	140	0,00	3,19	99,99	19,47	16,29	15,74	7,00	7,56
320	130	0,00	3,36	99,99	20,69	17,32	15,68	8,00	6,38
330	120	0,00	3,22	99,99	22,44	19,21	15,69	8,00	5,61
340	110	0,00	2,93	99,99	23,96	21,03	15,65	8,00	0,67
350	100	0,00	2,69	99,99	25,16	22,47	15,58	8,00	0,91

Minimum Increase in Allowable VCG = 0,67

Maximum Allowable VCG = 25,230

CONFERE COM O ORIGINAL
JOSÉ CARLOS PINHEIRO MACHADO
DIRETOR
CARTÓRIO DE SERVIÇOS NOTARIAIS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Damaged**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**D230**		
Space Damaged	**Void Space 46aS (Modified)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	3,27	99,99	25,89	22,62	15,51	8,00	5,01
10	80	0,00	3,12	99,99	25,11	21,99	15,44	9,00	4,96
20	70	0,00	3,14	99,99	23,98	20,84	15,33	8,00	5,13
30	60	0,00	3,24	99,99	22,51	19,27	15,25	8,00	5,60
40	50	0,00	3,24	99,99	20,81	17,57	15,21	7,00	6,43
50	40	0,00	3,10	99,99	19,37	16,27	15,21	7,00	8,00
60	30	0,00	2,78	99,99	20,39	17,61	15,25	6,00	9,95
70	20	0,00	2,40	99,99	21,15	18,75	15,32	6,00	10,95
80	10	0,00	2,09	99,99	22,45	20,36	15,39	5,00	12,13
90	0	0,00	1,97	99,99	25,91	23,93	15,43	5,00	13,37
270	180	0,00	2,51	99,99	24,87	22,35	15,82	6,00	13,04
280	170	0,00	2,91	99,99	22,06	19,15	15,72	6,00	11,65
290	160	0,00	3,68	99,99	20,88	17,20	15,55	7,00	10,32
300	150	0,00	4,69	99,99	20,11	15,43	15,35	7,00	9,26
310	140	0,00	5,20	99,99	19,54	14,34	15,26	7,00	7,76
320	130	0,00	5,45	99,99	20,70	15,26	15,19	8,00	6,57
330	120	0,00	5,32	99,99	22,44	17,12	15,20	8,00	5,78
340	110	0,00	4,51	99,99	23,96	19,46	15,38	8,00	5,25
350	100	0,00	3,72	99,99	25,16	21,43	15,55	8,00	5,02

Minimum Increase in Allowable VCG = 4,96

Maximum Allowable VCG = 29,520

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA EL CASTRO
DIRETOR
DIVISÃO DE SERVIÇOS AUXILIARES

DIVISÃO JUDICIÁRIA
2745
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Damaged**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**D231**		
Space Damaged	**Void Space 45S (Modified)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	3,25	99,99	25,59	22,34	15,33	8,00	4,95
10	80	0,00	3,68	99,99	24,88	21,20	15,20	8,00	4,86
20	70	0,00	4,45	99,99	23,82	19,38	15,00	8,00	5,02
30	60	0,00	5,28	99,99	22,44	17,16	14,79	8,00	5,42
40	50	0,00	5,46	99,99	20,85	15,39	14,70	8,00	6,09
50	40	0,00	5,17	99,99	19,71	14,54	14,73	7,00	7,37
60	30	0,00	4,58	99,99	20,22	15,63	14,83	7,00	8,83
70	20	0,00	3,58	99,99	20,98	17,39	15,02	7,00	9,86
80	10	0,00	2,82	99,99	22,16	19,34	15,19	6,00	11,14
90	0	0,00	2,42	99,99	25,08	22,66	15,29	6,00	12,46
270	180	0,00	2,04	99,99	25,63	23,59	15,97	5,00	13,97
280	170	0,00	2,15	99,99	22,33	20,18	15,93	5,00	12,66
290	160	0,00	2,45	99,99	21,04	18,59	15,86	6,00	11,43
300	150	0,00	2,84	99,99	20,27	17,43	15,79	6,00	10,39
310	140	0,00	3,15	99,99	19,15	16,00	15,75	7,00	8,42
320	130	0,00	3,28	99,99	20,68	17,40	15,70	7,00	6,86
330	120	0,00	3,28	99,99	22,52	19,24	15,66	8,00	5,88
340	110	0,00	3,15	99,99	24,12	20,97	15,57	8,00	5,31
350	100	0,00	3,12	99,99	25,39	22,27	15,43	9,00	5,08

Minimum Increase in Allowable VCG = 4,86
Maximum Allowable VCG = 29,420

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSE CARLOS PINHEIRO GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Title	Stability Analysis Results
Condition	Inspection - Damaged
Draft	18,00 m
Displacement	50390 mT
LCG (from FP)	57,12 m
TCG (+ve stbd)	0,03 m
VCG (abl)	24,56 m
Genstab Run ID	D232
Space Damaged	Exist Fairlead Box & VS 65S

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	2,93	7,16	99,99	25,35	18,19	14,29	10,00	4,09
10	80	3,25	7,44	99,99	24,73	17,29	14,26	10,00	4,01
20	70	3,45	7,60	99,99	23,72	16,12	14,21	10,00	4,10
30	60	3,61	7,55	99,99	22,35	14,80	14,18	10,00	4,38
40	**50**	3,58	7,29	99,99	20,75	13,46	14,17	9,00	4,89
50	40	3,42	6,89	99,99	19,49	12,61	14,18	8,00	5,92
60	30	3,23	6,37	99,99	19,80	13,43	14,23	8,00	7,43
70	20	2,91	5,81	99,99	20,68	14,86	14,29	7,00	8,58
80	10	2,54	5,23	99,99	21,72	16,49	14,34	7,00	9,95
90	0	2,02	4,58	99,99	24,21	19,63	14,38	6,00	11,54
270	180	0,00	0,87	99,99	25,62	24,75	15,69	5,00	12,49
280	170	0,00	1,07	99,99	22,32	21,25	15,50	5,00	10,94
290	160	0,00	1,72	99,99	20,92	19,20	15,38	6,00	9,96
300	150	0,00	2,60	99,99	19,38	16,78	15,31	6,00	8,71
310	140	0,00	3,63	99,99	18,71	15,08	15,00	7,00	7,09
320	130	0,00	5,04	99,99	20,57	15,53	14,49	8,00	5,75
330	120	1,54	5,95	99,99	22,49	16,54	14,41	9,00	4,92
340	110	2,05	6,50	99,99	24,14	17,64	14,36	10,00	4,47
350	100	2,57	6,84	99,99	25,43	18,59	14,32	10,00	4,31

Minimum Increase in Allowable VCG = 4,01
Maximum Allowable VCG = 28,570

ESTE DOCUMENTO É CÓPIA FIEL DO ORIGINAL
DIRETOR

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Damaged**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**D233**		
Space Damaged	**Exist Fairlead Box & VS 64S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	2,99	7,10	99,99	25,78	18,69	14,51	10,00	4,23
10	80	2,61	6,79	99,99	25,15	18,36	14,49	10,00	4,20
20	70	2,07	6,45	99,99	23,99	17,54	14,47	10,00	4,31
30	60	1,53	5,91	99,99	22,48	16,57	14,46	9,00	4,70
40	**50**	0,00	4,98	99,99	20,69	15,71	14,54	8,00	5,42
50	40	0,00	3,58	99,99	18,93	15,35	15,01	7,00	6,66
60	30	0,00	2,54	99,99	19,33	16,78	15,11	6,00	8,16
70	20	0,00	1,69	99,99	21,02	19,33	15,24	6,00	9,47
80	10	0,00	0,99	99,99	22,44	21,45	15,31	5,00	10,44
90	0	0,00	0,78	99,99	25,88	25,10	15,42	5,00	11,92
270	180	2,13	4,56	99,99	24,00	19,43	14,93	6,00	12,07
280	170	2,66	5,22	99,99	21,64	16,43	14,91	7,00	10,45
290	160	3,03	5,75	99,99	20,59	14,84	14,80	7,00	9,03
300	150	3,37	6,32	99,99	19,74	13,42	14,72	8,00	7,86
310	140	3,56	6,81	99,99	19,34	12,53	14,61	8,00	6,27
320	130	3,70	7,23	99,99	20,61	13,38	14,53	9,00	5,31
330	120	3,70	7,48	99,99	22,35	14,87	14,49	9,00	4,73
340	110	3,55	7,54	99,99	23,85	16,31	14,49	10,00	4,34
350	100	3,33	7,38	99,99	25,00	17,62	14,51	10,00	4,18

Minimum Increase in Allowable VCG = 4,18
Maximum Allowable VCG = 28,740

CÓPIA FIEL DO DOCUMENTO ORIGINAL

TRIBUNAL MARÍTIMO

TRIBUNAL MARITIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Inspection - Damaged**	**Project**	**P36 Roncador**
Draft	**18,00 m**	**Client**	**Petromec**
Displacement	**50390 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,12 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**24,56 m**		
Genstab Run ID	**D234**		
Space Damaged	**Subdivision of Base Oil Tank N1**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,58	99,99	25,54	22,96	15,52	7,00	5,05
10	80	0,00	2,68	99,99	24,84	22,16	15,43	7,00	5,00
20	70	0,00	2,92	99,99	23,79	20,87	15,34	8,00	5,18
30	60	0,00	3,23	99,99	22,41	19,18	15,25	8,00	5,61
40	50	0,00	3,42	99,99	20,83	17,41	15,17	7,00	6,32
50	40	0,00	3,28	99,99	19,72	16,45	15,16	7,00	7,59
60	30	0,00	2,87	99,99	20,24	17,37	15,23	7,00	8,92
70	20	0,00	2,43	99,99	20,99	18,56	15,31	6,00	9,87
80	10	0,00	2,09	99,99	22,20	20,10	15,39	6,00	11,04
90	0	0,00	1,97	99,99	25,16	23,19	15,43	5,00	12,31
270	180	0,00	2,04	99,99	25,63	23,59	15,97	5,00	13,97
280	170	0,00	2,15	99,99	22,33	20,18	15,93	5,00	12,66
290	160	0,00	2,45	99,99	21,04	18,59	15,86	6,00	11,43
300	150	0,00	2,84	99,99	20,27	17,44	15,79	6,00	10,39
310	140	0,00	3,15	99,99	19,48	16,33	15,75	7,00	8,84
320	130	0,00	3,28	99,99	20,68	17,40	15,70	7,00	7,28
330	120	0,00	3,18	99,99	22,51	19,33	15,70	7,00	6,21
340	110	0,00	2,93	99,99	24,11	21,18	15,65	7,00	5,54
350	100	0,00	2,69	99,99	25,39	22,70	15,58	7,00	5,23

Minimum Increase in Allowable VCG = 5,00
Maximum Allowable VCG = 29,560

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO SOUSA
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Title	Stability Analysis Results
Condition	Inspection - Accidental Flooding
Draft	18,00 m
Displacement	50390 mT
LCG (from FP)	57,12 m
TCG (+ve stbd)	0,03 m
VCG (abl)	24,56 m
Genstab Run ID	A231
Space Damaged	SW Ballast Tank 21S

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Angle of Loll	Angle of Vanishing Stability	Positive Stability Range beyond Angle of Loll
0	4,26	99,99	35,74
10	5,56	99,99	34,44
20	6,68	99,99	33,32
30	7,61	99,99	32,39
40	8,31	99,99	31,69
50	8,74	99,99	31,26
60	8,92	99,99	31,08
70	8,83	99,99	31,17
80	8,48	99,99	31,52
90	7,88	99,99	32,12
270	0,00	99,99	40,00
280	0,00	99,99	40,00
290	0,00	99,99	40,00
300	0,00	99,99	40,00
310	0,00	99,99	40,00
320	0,00	99,99	40,00
330	0,00	99,99	40,00
340	1,30	99,99	38,70
350	2,83	99,99	37,17

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA LOUSÃO
DIRETOR
DIVISÃO DE SEGURANÇA OPERACIONAL

TRIBUNAL MARÍTIMO 2750

Title	Stability Analysis Results
Condition	Inspection - Accidental Flooding
Draft	18,00 m
Displacement	50390 mT
LCG (from FP)	57,12 m
TCG (+ve stbd)	0,03 m
VCG (abl)	24,56 m
Genstab Run ID	A232
Space Damaged	SW Ballast Tank 22S

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Angle of Loll	Angle of Vanishing Stability	Positive Stability Range beyond Angle of Loll
0	5,61	99,99	34,39
10	6,85	99,99	33,15
20	7,87	99,99	32,13
30	8,66	99,99	31,34
40	9,18	99,99	30,82
50	9,44	99,99	30,56
60	9,40	99,99	30,60
70	9,08	99,99	30,92
80	8,50	99,99	31,50
90	7,68	99,99	32,32
270	0,00	99,99	40,00
280	0,00	99,99	40,00
290	0,00	99,99	40,00
300	0,00	99,99	40,00
310	0,00	99,99	40,00
320	0,00	99,99	40,00
330	1,01	99,99	38,99
340	2,64	99,99	37,36
350	4,19	99,99	35,81

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO LOBÃO
DIRETOR
DIVISÃO DE SERVIÇOS DOCUMENTAIS

TRIBUNAL MARITIMO 2751

WS No	**7/15/2177**
Project	**P36 Roncador**
Client	**Petromec**
Date	**18-jan-1999**
By	**MSE**
Checked	
Title	**Stability Analysis Results**
Condition	**Operational/Survival**
Draft	**22,00 m**
Displacement	**56503 mT**
LCG (from FP)	**57,05 m**
TCG (+ve stbd)	**0,03 m**
VCG (abl)	**22,41 m**

Description	Genstab ID	Max Allowable VCG	Comments
Intact Condition			
Vessel Intact	I110	23,18	
Damaged Condition			
Columns			
Base Oil Tank N1	D127	23,042	
Void Space 32 Stbd 3 (subdivided)	D126	23,682	Formerly part of VS32 Stbd 1
Fairlead Boxes & Extensions			
Void Space 46S	D124	23,492	
Void Space 45S	D125	23,462	
Void Space 65S (modified)	D128	23,512	Formerly part of VS 46aS
Void Space 64S (modified)	D129	23,552	Formerly part of VS 45aS
Void Space 46aS (modified)	D130	23,662	
Void Space 45aS (modified)	D131	23,622	
Accidental Flooding			
Lower Hull			
S.W. Bal Tk 21s	A131	-	
S.W. Bal Tk 22s	A132	-	

* Values superceeded by modifications to tanks

Limiting KG	**23,04 m** for damage to Base Oil Tank
Actual KG	**22,41 m**
Stability Margin	**0,63 m** for weight control report R

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS AUXILIARES

JUSTIÇA JUDICIÁRIA
TRIBUNAL MARÍTIMO
1752

WS No	**7/15/2177**
Project	**P36 Roncador**
Client	**Petromec**
Date	**18-Jan-1999**
By	**MSE**
Checked	
Title	**Stability Analysis Results**
Condition	**Operational/Survival**
Draft	**22,00 m**
Displacement	**56503 mT**
LCG (from FP)	**57,05 m**
TCG (+ve stbd)	**0,03 m**
VCG (abl)	**22,41 m**

Description	Genstab ID	Max Allowable VCG	Comments
Intact Condition			
Vessel Intact	I110	23,18	
Damaged Condition			
Columns			
Void Space 32 Stbd 1 (unmodified)	D121	21,072 *	Subdivide compartment
Base Oil Tank N1	D127	23,042 *	Subdivide compartment
Fairlead Boxes & Extensions			
Void Space 46aS (As-built)	D122	22,642 *	Subdivide compartment
Void Space 45aS (As-built)	D123	22,622 *	Subdivide compartment
Void Space 46S	D124	23,492	
Void Space 45S	D125	23,462	
Fairlead Box & Void Space 65S	D132	22,572	Results N/A as fairleads/chains will
Fairlead Box & Void Space 64S	D133	22,592	prevent damage
New/Rearranged Compartments			
Void Space 32 Stbd 3 (subdivided)	D126	23,682	Formerly part of VS32 Stbd 1
Void Space 65S (modified)	D128	23,512	Formerly part of VS 46aS
Void Space 64S (modified)	D129	23,552	Formerly part of VS 45aS
Void Space 46aS (modified)	D130	23,662	
Void Space 45aS (modified)	D131	23,622	
Base Oil Tank N1A (Subdivided)	D134	23,722	Formerly part of Base Oil Tank N1
Accidental Flooding			
Lower Hull			
S.W. Bal Tk 21s	A131	-	
S.W. Bal Tk 22s	A132	-	

* Values superceeded by modifications to tanks

Limiting KG	**23,18 m** for Intact Stability
Actual KG	**22,41 m**
Stability Margin	**0,77 m**

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO SOUSSO
DIRETOR
DIVISÃO DE SERVIÇOS JUDICIAIS

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Intact**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**I110**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	Area Ratio	δ VCG
0	90	0,0	3,78	99,99	23,40	19,61	11,37	2,02	1,40
10	80	0,0	3,93	99,99	22,56	18,62	11,25	2,05	1,30
20	70	0,0	4,29	99,99	21,38	17,09	11,10	1,89	1,16
30	60	0,0	4,65	99,99	19,81	15,15	10,98	1,79	0,87
40	50	0,0	4,80	99,99	18,02	13,21	10,89	1,79	0,77
50	40	0,0	4,63	99,99	17,34	12,70	10,88	1,88	0,84
60	30	0,0	4,18	99,99	17,54	13,35	10,95	2,24	1,14
70	20	0,0	3,64	99,99	19,33	15,69	11,05	3,01	1,65
80	10	0,0	3,20	99,99	20,77	17,56	11,16	3,77	2,26
90	0	0,0	3,03	99,99	22,91	19,89	11,22	4,91	2,60
270	180	0,0	2,97	99,99	22,74	19,77	11,78	5,05	2,63
280	170	0,0	3,14	99,99	20,64	17,50	11,72	3,87	2,29
290	160	0,0	3,59	99,99	19,22	15,64	11,62	3,09	1,69
300	150	0,0	4,12	99,99	17,44	13,32	11,51	2,30	1,18
310	140	0,0	4,57	99,99	17,25	12,68	11,44	1,92	0,86
320	130	0,0	4,75	99,99	18,00	13,24	11,38	1,78	0,80
330	120	0,0	4,61	99,99	19,81	15,19	11,40	1,81	0,90
340	110	0,0	4,26	99,99	21,41	17,14	11,48	1,91	1,20
330	100	0,0	3,92	99,99	22,68	18,76	11,47	2,08	1,35

Minimum Increase in Allowable VCG = 0,77
Maximum Allowable VCG = 23,18

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO SOUSA
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d121**		
Space Damaged	**Void Space 32 Stbd 1 (Unmodified)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	7,55	4,88	5,08	21,96	0,20	10,82	12,00	-1,15
10	80	6,31	4,07	5,20	22,37	1,12	10,96	11,00	-1,34
20	70	1,33	3,39	5,58	21,68	2,20	11,07	9,00	-0,54
30	60	0,00	2,72	99,99	20,02	17,30	11,20	5,00	0,54
40	**50**	0,00	2,08	99,99	18,05	15,96	11,35	5,00	1,61
50	40	0,00	1,47	99,99	15,95	14,48	11,34	4,00	2,11
60	30	0,00	0,86	99,99	16,78	15,92	11,38	3,00	2,51
70	20	0,00	0,33	99,99	19,33	19,00	11,45	2,00	3,03
80	10	0,00	99,99	99,99	20,77	99,99	99,99	99,99	*
90	0	0,00	99,99	99,99	22,90	99,99	99,99	99,99	*
270	180	7,07	4,03	5,38	20,99	1,36	11,04	9,00	-0,95
280	170	8,20	4,97	5,05	19,53	0,08	10,87	10,00	-0,97
290	160	9,13	10,29	99,99	18,01	7,72	6,47	12,00	0,70
300	150	9,55	11,14	99,99	16,69	5,55	6,20	12,00	-0,96
310	140	10,16	11,67	99,99	16,88	5,21	6,04	13,00	-0,98
320	130	10,22	11,95	99,99	17,53	5,57	5,90	13,00	-1,00
330	120	10,09	11,85	99,99	18,58	6,74	5,91	14,00	-0,15
340	110	9,40	11,38	99,99	19,99	8,61	6,00	13,00	0,77
350	100	8,53	10,57	99,99	21,24	10,66	6,12	13,00	1,19

Minimum Increase in Allowable VCG = -1,34
Maximum Allowable VCG = 21,072

ESTE DOCUMENTO É CÓPIA FIEL DO ORIGINAL
ASSINATURA DO RESPONSÁVEL
CARGO/FUNÇÃO
ÓRGÃO

TRIBUNAL MARÍTIMO
Divisão Judiciária

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d122**		
Space Damaged	**Void Space 46aS (As-built)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	2,37	4,86	99,99	22,79	17,93	10,92	10,00	1,66
10	80	1,99	4,24	99,99	22,82	18,58	10,99	8,00	1,51
20	70	1,55	3,65	99,99	21,61	17,96	11,06	6,00	1,43
30	60	1,06	3,01	99,99	20,03	17,02	11,15	6,00	1,55
40	**50**	0,00	2,32	99,99	18,17	15,85	11,30	5,00	1,72
50	40	0,00	1,63	99,99	16,56	14,93	11,34	4,00	1,99
60	30	0,00	0,97	99,99	16,52	15,54	11,36	3,00	2,45
70	20	0,00	0,41	99,99	19,33	18,92	11,44	3,00	3,00
80	10	0,00	99,99	99,99	20,77	99,99	99,99	99,99	*
90	0	0,00	99,99	99,99	22,90	99,99	99,99	99,99	*
270	180	1,99	3,77	99,99	21,61	17,84	11,13	7,00	4,41
280	170	2,37	4,54	99,99	19,94	15,40	11,02	9,00	4,00
290	160	2,68	5,57	99,99	18,59	13,02	10,85	10,00	2,53
300	150	2,91	6,89	99,99	16,95	10,06	10,55	11,00	0,49
310	140	3,02	8,19	99,99	17,03	8,83	9,79	12,00	0,23
320	130	3,11	8,68	99,99	17,75	9,08	9,39	12,00	0,44
330	120	3,04	7,85	99,99	19,19	11,34	10,16	12,00	1,13
340	110	2,91	6,60	99,99	20,82	14,22	10,61	12,00	1,73
350	100	2,68	5,60	99,99	21,98	16,39	10,81	11,00	1,81

Minimum Increase in Allowable VCG = 0,23
Maximum Allowable VCG = 22,642

CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO DUTRA
CONTADOR - CRC-RJ 052.944/O-6
DIVISÃO JURISDIÇÃO TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d123**		
Space Damaged	**Void Space 45aS (As-built)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	2,40	4,90	99,99	22,61	17,70	10,50	10,00	1,67
10	80	2,72	5,66	99,99	21,91	16,25	10,38	11,00	1,81
20	70	2,96	6,73	99,99	20,81	14,08	10,16	12,00	1,70
30	60	3,11	8,05	99,99	19,13	11,08	9,84	12,00	1,02
40	**50**	3,19	8,98	99,99	17,77	8,79	9,10	12,00	0,38
50	40	3,12	8,40	99,99	17,10	8,70	9,60	12,00	0,21
60	30	2,99	7,08	99,99	17,03	9,95	9,99	11,00	0,44
70	20	2,76	5,67	99,99	18,64	12,97	10,28	10,00	2,40
80	10	2,45	4,62	99,99	20,03	15,40	10,46	9,00	3,88
90	0	2,07	3,85	99,99	21,74	17,90	10,56	7,00	4,24
270	180	0,00	99,99	99,99	22,75	99,99	99,99	99,99	*
280	170	0,00	99,99	99,99	20,64	99,99	99,99	99,99	*
290	160	0,00	0,34	99,99	19,22	18,88	11,28	2,00	3,08
300	150	0,00	0,91	99,99	16,40	15,49	11,13	3,00	2,47
310	140	0,00	1,59	99,99	16,48	14,90	11,05	4,00	2,02
320	130	0,00	2,29	99,99	18,12	15,83	10,94	5,00	1,73
330	120	1,06	3,00	99,99	20,02	17,02	10,80	6,00	1,56
340	110	1,56	3,65	99,99	21,66	18,00	10,68	7,00	1,45
350	100	2,01	4,27	99,99	22,94	18,67	10,59	8,00	1,52

Minimum Increase in Allowable VCG = 0,21
Maximum Allowable VCG = 22,622

ESTA COPIA PERTENCE AO DOCUMENTO ORIGINAL
JOSE CARLOS SOARES DE OLIVEIRA
DIRETOR
CREA-RJ 060.164.199-00

DOCUMENTO ORIGINAL ENCONTRA-SE NO TRIBUNAL MARITIMO

GUIA JUDICIARIA
175
TRIBUNAL MARITIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d124**		
Space Damaged	**Void Space 46S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,45	99,99	23,14	20,69	11,61	5,00	1,87
10	80	0,00	2,25	99,99	22,73	20,48	11,58	4,00	2,06
20	70	0,00	2,11	99,99	21,53	19,43	11,54	4,00	2,14
30	60	0,00	1,95	99,99	19,98	18,03	11,50	4,00	2,11
40	**50**	0,00	1,74	99,99	18,12	16,38	11,46	4,00	2,16
50	40	0,00	1,46	99,99	17,05	15,59	11,47	4,00	2,32
60	30	0,00	1,13	99,99	17,33	16,20	11,49	3,00	2,61
70	20	0,00	0,79	99,99	19,33	18,55	11,54	3,00	2,97
80	10	0,00	0,49	99,99	20,77	20,27	11,58	2,00	3,44
90	0	0,00	0,32	99,99	22,91	22,59	11,61	2,00	3,63
270	180	0,00	2,27	99,99	22,16	19,89	11,77	4,00	2,47
280	170	1,06	2,54	99,99	20,34	17,80	11,72	5,00	2,01
290	160	1,17	2,90	99,99	19,00	16,09	11,66	5,00	1,58
300	150	1,24	3,27	99,99	17,24	13,97	11,59	6,00	1,28
310	140	1,27	3,51	99,99	17,16	13,65	11,55	7,00	1,11
320	130	1,26	3,56	99,99	17,83	14,28	11,54	8,00	1,08
330	120	1,21	3,39	99,99	19,40	16,01	11,56	7,00	1,16
340	110	1,12	3,08	99,99	21,05	17,97	11,62	6,00	1,32
350	100	0,00	2,73	99,99	22,26	19,53	11,64	5,00	1,55

Minimum Increase in Allowable VCG = 1,08
Maximum Allowable VCG = 23,492

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSMÃO
DIVISÃO DE SERVIÇOS CARTORÁRIOS

TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d125**		
Space Damaged	**Void Space 45S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,46	99,99	22,93	20,47	11,26	5,00	1,85
10	80	1,01	2,76	99,99	22,17	19,41	11,20	5,00	1,53
20	70	1,15	3,12	99,99	21,04	17,92	11,12	6,00	1,29
30	60	1,25	3,44	99,99	19,35	15,91	11,05	7,00	1,12
40	50	1,31	3,61	99,99	17,85	14,24	10,99	9,00	1,05
50	40	1,32	3,57	99,99	17,24	13,67	10,99	8,00	1,09
60	30	1,29	3,33	99,99	17,34	14,01	11,03	6,00	1,25
70	20	1,23	2,96	99,99	19,09	16,13	11,09	6,00	1,53
80	10	1,12	2,60	99,99	20,45	17,85	11,16	5,00	1,94
90	0	0,00	2,33	99,99	22,34	20,01	11,20	4,00	2,41
270	180	0,00	0,26	99,99	22,75	22,49	11,70	2,00	3,66
280	170	0,00	0,43	99,99	20,64	20,21	11,67	2,00	3,46
290	160	0,00	0,73	99,99	19,22	18,49	11,64	3,00	3,02
300	150	0,00	1,08	99,99	17,26	16,18	11,61	3,00	2,64
310	140	0,00	1,42	99,99	16,96	15,54	11,55	4,00	2,38
320	130	0,00	1,70	99,99	18,10	16,40	11,50	4,00	2,19
330	120	0,00	1,93	99,99	19,96	18,03	11,41	4,00	2,13
340	110	0,00	2,10	99,99	21,58	19,48	11,35	4,00	2,15
350	100	0,00	2,25	99,99	22,87	20,62	11,30	4,00	2,06

Minimum Increase in Allowable VCG = 1,05
Maximum Allowable VCG = 23,462

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIRES DE OLIVEIRA DIAS
DIRETOR

TRIBUNAL MARITIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d126**		
Space Damaged	**Void Space 32 Stbd 3 (New Subdivided Compartment)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	1,86	99,99	23,11	21,24	11,64	4,00	2,03
10	80	0,00	1,79	99,99	22,71	20,93	11,60	4,00	2,39
20	70	0,00	1,77	99,99	21,52	19,74	11,55	4,00	2,30
30	60	0,00	1,75	99,99	19,96	18,21	11,50	4,00	2,23
40	50	0,00	1,69	99,99	18,07	16,38	11,48	4,00	2,20
50	40	0,00	1,54	99,99	17,21	15,67	11,48	4,00	2,37
60	30	0,00	1,33	99,99	17,50	16,16	11,51	4,00	2,60
70	20	0,00	1,09	99,99	19,33	18,24	11,54	3,00	2,96
80	10	0,00	0,88	99,99	20,77	19,88	11,58	3,00	3,44
90	0	0,00	0,78	99,99	22,91	22,13	11,61	3,00	3,63
270	180	0,00	1,68	99,99	22,21	20,52	11,96	4,00	2,72
280	170	0,00	1,85	99,99	20,35	18,49	11,92	4,00	2,22
290	160	0,00	2,11	99,99	19,02	16,90	11,87	4,00	1,80
300	150	0,00	2,37	99,99	17,25	14,87	11,82	5,00	1,51
310	140	0,00	2,55	99,99	17,15	14,60	11,82	5,00	1,36
320	130	0,00	2,59	99,99	17,80	15,22	11,81	5,00	1,27
330	120	0,00	2,48	99,99	19,34	16,86	11,73	5,00	1,32
340	110	0,00	2,27	99,99	21,01	18,74	11,69	5,00	1,48
350	100	0,00	2,03	99,99	22,22	20,20	11,64	4,00	1,75

Minimum Increase in Allowable VCG = 1,27
Maximum Allowable VCG = 23,682

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL DE ASSUNÇÃO
PERITO DO TRIBUNAL MARÍTIMO

TRIBUNAL MARITIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d127**		
Space Damaged	**Base Oil Tank N1**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,30	99,99	22,56	20,26	11,29	5,00	1,39
10	80	0,00	2,57	99,99	21,83	19,26	11,23	5,00	1,09
20	70	0,00	2,91	99,99	20,69	17,79	11,16	6,00	0,86
30	60	1,02	3,22	99,99	18,95	15,73	11,08	7,00	0,70
40	**50**	1,07	3,39	99,99	17,70	14,32	11,02	11,00	0,63
50	40	1,08	3,34	99,99	17,13	13,79	11,01	11,00	0,69
60	30	1,06	3,11	99,99	17,16	14,05	11,06	6,00	0,87
70	20	0,00	2,76	99,99	18,88	16,12	11,12	5,00	1,09
80	10	0,00	2,41	99,99	20,21	17,80	11,19	5,00	1,45
90	0	0,00	2,16	99,99	21,96	19,80	11,23	4,00	1,95
270	180	0,00	0,45	99,99	22,74	22,28	11,75	2,00	3,66
280	170	0,00	0,60	99,99	20,64	20,04	11,72	3,00	3,46
290	160	0,00	0,86	99,99	19,22	18,37	11,69	3,00	3,00
300	150	0,00	1,17	99,99	17,25	16,08	11,65	3,00	2,63
310	140	0,00	1,46	99,99	16,94	15,48	11,60	4,00	2,38
320	130	0,00	1,70	99,99	18,07	16,38	11,54	4,00	2,18
330	120	0,00	1,88	99,99	19,96	18,08	11,45	4,00	2,13
340	110	0,00	2,01	99,99	21,60	19,60	11,39	4,00	2,17
350	100	0,00	2,13	99,99	22,90	20,77	11,34	4,00	1,71

Minimum Increase in Allowable VCG = 0,63
Maximum Allowable VCG = 23,042

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-Jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d128**		
Space Damaged	**Void Space 65S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,41	99,99	23,02	20,62	11,35	5,00	1,80
10	80	0,00	2,65	99,99	22,26	19,61	11,29	5,00	1,57
20	70	0,00	2,97	99,99	21,13	18,16	11,21	6,00	1,31
30	60	0,00	3,22	99,99	19,52	16,30	11,16	7,00	1,15
40	**50**	0,00	3,32	99,99	17,89	14,57	11,09	7,00	1,10
50	40	0,00	3,19	99,99	17,20	14,01	11,10	7,00	1,17
60	30	0,00	2,86	99,99	17,23	14,38	11,15	6,00	1,33
70	20	0,00	2,43	99,99	19,00	16,57	11,23	5,00	1,63
80	10	0,00	2,02	99,99	20,38	18,35	11,30	4,00	2,10
90	0	0,00	1,74	99,99	22,24	20,50	11,36	4,00	2,61
270	180	0,00	0,89	99,99	22,71	21,82	11,90	3,00	3,66
280	170	0,00	0,94	99,99	20,64	19,70	11,84	3,00	3,46
290	160	0,00	1,15	99,99	19,22	18,07	11,82	3,00	2,99
300	150	0,00	1,41	99,99	16,98	15,57	11,77	4,00	2,57
310	140	0,00	1,66	99,99	16,92	15,27	11,73	4,00	2,23
320	130	0,00	1,89	99,99	18,08	16,19	11,61	4,00	2,01
330	120	0,00	2,06	99,99	19,93	17,87	11,52	5,00	1,90
340	110	0,00	2,17	99,99	21,53	19,36	11,45	5,00	1,92
350	100	0,00	2,26	99,99	22,82	20,55	11,40	5,00	1,87

Minimum Increase in Allowable VCG = 1,10
Maximum Allowable VCG = 23,512

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
2762
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-Jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d129**		
Space Damaged	**Void Space 64S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,39	99,99	23,24	20,85	11,58	5,00	1,81
10	80	0,00	2,26	99,99	22,67	20,41	11,54	5,00	1,87
20	70	0,00	2,18	99,99	21,50	19,32	11,50	5,00	1,91
30	60	0,00	2,08	99,99	19,96	17,88	11,46	5,00	1,88
40	**50**	0,00	1,92	99,99	18,10	16,18	11,44	4,00	1,99
50	40	0,00	1,70	99,99	17,00	15,30	11,45	4,00	2,18
60	30	0,00	1,46	99,99	17,09	15,63	11,48	4,00	2,53
70	20	0,00	1,21	99,99	19,33	18,13	11,52	3,00	2,95
80	10	0,00	1,00	99,99	20,77	19,77	11,56	3,00	3,44
90	0	0,00	0,95	99,99	22,88	21,93	11,60	3,00	3,62
270	180	0,00	1,68	99,99	22,14	20,46	11,92	4,00	2,65
280	170	0,00	1,96	99,99	20,27	18,31	11,87	4,00	2,14
290	160	0,00	2,36	99,99	18,91	16,54	11,79	5,00	1,69
300	150	0,00	2,79	99,99	17,13	14,34	11,72	6,00	1,36
310	140	0,00	3,13	99,99	17,12	13,99	11,65	7,00	1,19
320	130	0,00	3,26	99,99	17,88	14,61	11,61	7,00	1,14
330	120	0,00	3,17	99,99	19,54	16,37	11,64	7,00	1,18
340	110	0,00	2,94	99,99	21,14	18,21	11,63	6,00	1,33
350	100	0,00	2,62	99,99	22,36	19,74	11,59	5,00	1,59

Minimum Increase in Allowable VCG = 1,14
Maximum Allowable VCG = 23,552

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA GUEDES
DIRETOR
DIVISÃO DE SEGUROS CONVENCIONAIS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Title	Stability Analysis Results
Condition	Operational/Survival - Damaged
Draft	22,00 m
Displacement	56503 mT
LCG (from FP)	57,05 m
TCG (+ve stbd)	0,03 m
VCG (abl)	22,41 m
Genstab Run ID	d130
Space Damaged	Void Space 46aS (Modified)

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,46	99,99	23,24	20,78	11,60	5,00	1,96
10	80	0,00	2,30	99,99	22,69	20,40	11,57	5,00	2,09
20	70	0,00	2,18	99,99	21,52	19,34	11,52	4,00	2,10
30	60	0,00	2,04	99,99	19,97	17,93	11,49	4,00	2,04
40	50	0,00	1,83	99,99	18,11	16,28	11,45	4,00	2,12
50	40	0,00	1,57	99,99	17,05	15,48	11,46	4,00	2,28
60	30	0,00	1,24	99,99	17,27	16,02	11,48	3,00	2,58
70	20	0,00	0,90	99,99	19,33	18,43	11,53	3,00	2,96
80	10	0,00	0,61	99,99	20,77	20,16	11,57	2,00	3,44
90	0	0,00	0,44	99,99	22,91	22,47	11,60	2,00	3,63
270	180	0,00	2,09	99,99	22,21	20,12	11,81	4,00	2,69
280	170	0,00	2,36	99,99	20,36	18,00	11,77	4,00	2,22
290	160	1,02	2,72	99,99	19,00	16,28	11,71	5,00	1,78
300	150	1,11	3,09	99,99	17,23	14,15	11,64	6,00	1,46
310	140	1,15	3,34	99,99	17,16	13,82	11,61	6,00	1,29
320	130	1,16	3,43	99,99	17,87	14,45	11,57	7,00	1,25
330	120	1,13	3,30	99,99	19,51	16,20	11,59	6,00	1,30
340	110	1,06	3,04	99,99	21,13	18,09	11,64	6,00	1,45
350	100	0,00	2,72	99,99	22,35	19,63	11,63	5,00	1,71

Minimum Increase in Allowable VCG = 1,25
Maximum Allowable VCG = 23,662

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
DIVISÃO DE SEGURANÇA CARTORIAIS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d131**		
Space Damaged	**Void Space 45S (Modified)**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	2,47	99,99	23,00	20,52	11,29	5,00	1,95
10	80	0,00	2,74	99,99	22,25	19,51	11,24	5,00	1,69
20	70	1,09	3,07	99,99	21,12	18,05	11,16	6,00	1,43
30	60	1,17	3,35	99,99	19,49	16,14	11,09	6,00	1,26
40	50	1,21	3,48	99,99	17,89	14,42	11,04	7,00	1,21
50	40	1,20	3,40	99,99	17,24	13,84	11,04	7,00	1,27
60	30	1,16	3,15	99,99	17,34	14,19	11,08	6,00	1,43
70	20	1,08	2,78	99,99	19,10	16,32	11,14	5,00	1,73
80	10	0,00	2,42	99,99	20,47	18,05	11,21	4,00	2,16
90	0	0,00	2,15	99,99	22,37	20,22	11,25	4,00	2,64
270	180	0,00	0,38	99,99	22,75	22,37	11,73	2,00	3,66
280	170	0,00	0,55	99,99	20,64	20,09	11,70	2,00	3,47
290	160	0,00	0,85	99,99	19,22	18,38	11,67	3,00	3,01
300	150	0,00	1,19	99,99	17,17	15,98	11,64	3,00	2,61
310	140	0,00	1,52	99,99	16,96	15,44	11,59	4,00	2,34
320	130	0,00	1,79	99,99	18,09	16,29	11,53	4,00	2,14
330	120	0,00	2,01	99,99	19,94	17,93	11,44	4,00	2,06
340	110	0,00	2,16	99,99	21,55	19,39	11,38	4,00	2,09
350	100	0,00	2,29	99,99	22,84	20,55	11,34	5,00	2,09

Minimum Increase in Allowable VCG = 1,21
Maximum Allowable VCG = 23,622

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO CUNHA
DIRETOR
DIVISÃO DE SERVIÇOS JUDICIÁRIOS

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**D132**		
Space Damaged	**Exist Fairlead Box & VS 65S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	3,24	5,30	99,99	22,63	17,33	10,43	10,00	1,58
10	80	3,60	5,94	99,99	21,93	15,99	10,34	11,00	1,71
20	70	3,86	7,09	99,99	20,84	13,75	10,08	12,00	1,60
30	60	4,01	8,45	99,99	19,19	10,74	9,62	12,00	0,96
40	**50**	4,02	9,17	99,99	17,78	8,60	8,93	12,00	0,32
50	40	3,92	8,69	99,99	17,06	8,37	9,27	12,00	0,16
60	30	3,70	7,29	99,99	16,94	9,65	9,91	11,00	0,39
70	20	3,37	5,74	99,99	18,50	12,76	10,22	10,00	2,29
80	10	2,93	4,64	99,99	19,94	15,30	10,40	9,00	3,95
90	0	2,40	3,84	99,99	21,65	17,81	10,48	7,00	4,27
270	180	0,00	99,99	99,99	22,73	99,99	99,99	99,99	*
280	170	0,00	99,99	99,99	20,57	99,99	99,99	99,99	*
290	160	0,00	0,18	99,99	18,90	18,72	10,98	2,00	3,06
300	150	0,00	1,01	99,99	16,18	15,17	10,92	3,00	2,27
310	140	0,00	1,87	99,99	16,46	14,59	10,88	4,00	1,85
320	130	0,00	2,69	99,99	18,11	15,41	10,78	5,00	1,62
330	120	1,60	3,46	99,99	20,00	16,54	10,66	6,00	1,43
340	110	2,22	4,11	99,99	21,63	17,52	10,57	7,00	1,36
350	100	2,77	4,69	99,99	22,90	18,21	10,51	9,00	1,44

Minimum Increase in Allowable VCG = 0,16
Maximum Allowable VCG = 22,572

COMPANHIA DE NAVEGAÇÃO OCEÂNICA

TRIBUNAL MARÍTIMO DIVISÃO JUDICIÁRIA 2765

Title	Stability Analysis Results	WS No	7/15/2177
Condition	Operational/Survival - Damaged	Project	P36 Roncador
Draft	22,00 m	Client	Petromec
Displacement	56503 mT	Date	18-jan-1999
LCG (from FP)	57,05 m	By	MSE
TCG (+ve stbd)	0,03 m	Checked	
VCG (abl)	22,41 m		
Genstab Run ID	d134		
Space Damaged	Subdivision of Base Oil Tank N1		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	0,00	1,82	99,99	22,91	21,09	11,48	4,00	2,09
10	80	0,00	1,99	99,99	22,17	20,18	11,42	4,00	1,82
20	70	0,00	2,22	99,99	21,03	18,81	11,36	5,00	1,54
30	60	0,00	2,43	99,99	19,32	16,89	11,30	5,00	1,37
40	50	0,00	2,55	99,99	17,84	15,29	11,26	5,00	1,31
50	40	0,00	2,49	99,99	17,24	14,74	11,28	5,00	1,40
60	30	0,00	2,34	99,99	17,36	15,02	11,28	5,00	1,59
70	20	0,00	2,09	99,99	19,14	17,05	11,33	4,00	1,87
80	10	0,00	1,84	99,99	20,50	18,66	11,38	4,00	2,28
90	0	0,00	1,68	99,99	22,40	20,71	11,41	4,00	2,81
270	180	0,00	0,76	99,99	22,74	21,98	11,87	3,00	3,66
280	170	0,00	0,85	99,99	20,64	19,79	11,84	3,00	3,46
290	160	0,00	1,06	99,99	19,22	18,17	11,82	3,00	3,00
300	150	0,00	1,30	99,99	17,42	16,12	11,79	3,00	2,64
310	140	0,00	1,51	99,99	17,13	15,63	11,75	4,00	2,43
320	130	0,00	1,65	99,99	18,05	16,40	11,69	4,00	2,25
330	120	0,00	1,71	99,99	19,93	18,21	11,63	4,00	2,28
340	110	0,00	1,73	99,99	21,54	19,81	11,56	4,00	2,33
350	100	0,00	1,74	99,99	22,84	21,10	11,52	4,00	2,45

Minimum Increase in Allowable VCG = 1,31
Maximum Allowable VCG = 23,722

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SEGURANÇA PORTUÁRIA

Title	**Stability Analysis Results**	**WS No**	**7/15/2177**
Condition	**Operational/Survival - Damaged**	**Project**	**P36 Roncador**
Draft	**22,00 m**	**Client**	**Petromec**
Displacement	**56503 mT**	**Date**	**18-jan-1999**
LCG (from FP)	**57,05 m**	**By**	**MSE**
TCG (+ve stbd)	**0,03 m**	**Checked**	
VCG (abl)	**22,41 m**		
Genstab Run ID	**d133**		
Space Damaged	**Exist Fairlead Box & VS 64S**		

Heel Axis	Wind Heading	Angle of Loll	Angle of Static Wind Heel	Angle of 2nd Int	DF Angle	Range of Stability	Min DF Clearance	IMO Damaged Ratio	δ VCG
0	90	3,22	5,27	99,99	22,81	17,54	10,81	10,00	1,56
10	80	2,76	4,68	99,99	22,79	18,11	10,87	8,00	1,43
20	70	2,22	4,12	99,99	21,58	17,47	10,91	7,00	1,35
30	60	1,62	3,48	99,99	20,01	16,54	10,97	6,00	1,42
40	**50**	0,00	2,72	99,99	18,15	15,43	11,08	5,00	1,59
50	40	0,00	1,91	99,99	16,54	14,63	11,18	4,00	1,83
60	30	0,00	1,06	99,99	16,26	15,20	11,26	3,00	2,24
70	20	0,00	0,23	99,99	19,01	18,78	11,33	2,00	2,99
80	10	0,00	99,99	99,99	20,70	99,99	99,99	99,99	*
90	0	0,00	99,99	99,99	22,91	99,99	99,99	99,99	*
270	180	2,35	3,78	99,99	21,55	17,77	11,04	7,00	4,45
280	170	2,87	4,57	99,99	19,86	15,29	10,95	9,00	4,08
290	160	3,31	5,63	99,99	18,48	12,85	10,76	10,00	2,46
300	150	3,64	7,10	99,99	16,87	9,77	10,45	11,00	0,44
310	140	3,86	8,47	99,99	16,99	8,52	9,48	12,00	0,18
320	130	3,97	8,94	99,99	17,76	8,82	9,15	12,00	0,38
330	120	3,96	8,24	99,99	19,25	11,01	9,83	12,00	1,06
340	110	3,83	6,95	99,99	20,85	13,90	10,51	12,00	1,64
350	100	3,57	5,89	99,99	22,01	16,11	10,73	11,00	1,71

Minimum Increase in Allowable VCG = 0,18
Maximum Allowable VCG = 22,592

CÓPIA DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO DE MELLO
DIRETOR
DIVISÃO DE SEGURANÇA DE NAVEGAÇÃO

DIVISÃO JURÍDICA

Title	Stability Analysis Results	WS No	7/15/2177
Condition	Operational/Survival - Accidental Flooding	Project	P36 Roncador
Draft	22,00 m	Client	Petromec
Displacement	56503 mT	Date	18-jan-1999
LCG (from FP)	57,05 m	By	MSE
TCG (+ve stbd)	0,03 m	Checked	
VCG (abl)	22,41 m		
Genstab Run ID	a131		
Space Damaged	SW Ballast Tank 21S		

Heel Axis	Angle of Loll	Angle of Vanishing Stability	Positive Stability Range beyond Angle of Loll
0	7,49	99,99	32,51
10	9,13	99,99	30,87
20	10,48	99,99	29,52
30	11,51	99,99	28,49
40	12,20	99,99	27,80
50	12,51	99,99	27,49
60	12,46	99,99	27,54
70	12,03	99,99	27,97
80	11,28	99,99	28,72
90	10,17	99,99	29,83
270	0,00	99,99	40,00
280	0,00	99,99	40,00
290	0,00	99,99	40,00
300	0,00	99,99	40,00
310	0,00	99,99	40,00
320	0,00	99,99	40,00
330	1,38	99,99	38,62
340	3,56	99,99	36,44
350	5,62	99,99	34,38

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINOTTI GUSTÃO
DIRETOR
DIVISÃO DE REGISTROS CARTORIAIS

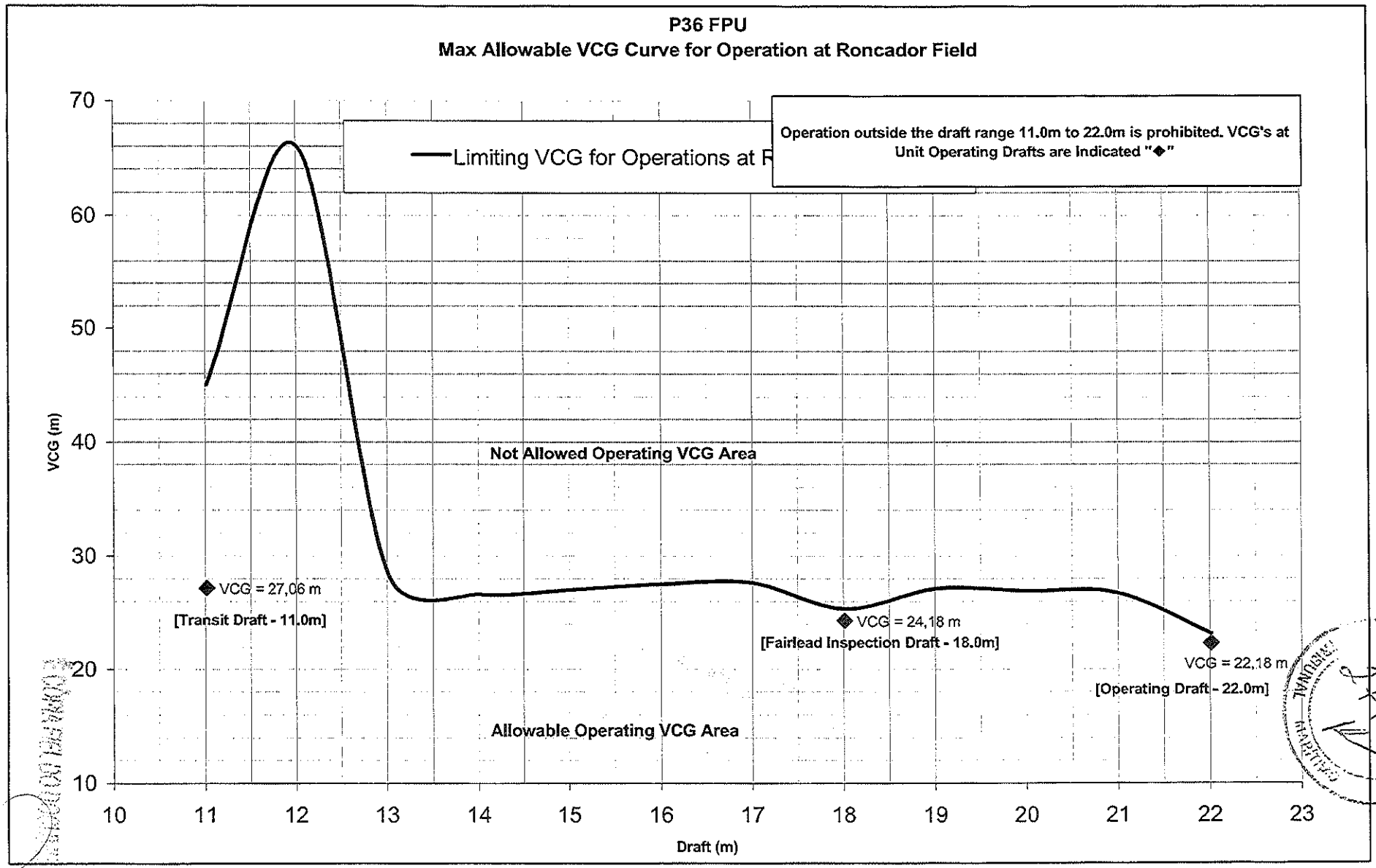
DIVISÃO JUDICIÁRIA
2765
TRIBUNAL MARÍTIMO

Title	Stability Analysis Results
Condition	Operational/Survival - Accidental Flooding
Draft	22,00 m
Displacement	56503 mT
LCG (from FP)	57,05 m
TCG (+ve stbd)	0,03 m
VCG (abl)	22,41 m
Genstab Run ID	a132
Space Damaged	SW Ballast Tank 22S

WS No	7/15/2177
Project	P36 Roncador
Client	Petromec
Date	18-jan-1999
By	MSE
Checked	

Heel Axis	Angle of Loll	Angle of Vanishing Stability	Positive Stability Range beyond Angle of Loll
0	8,64	99,99	31,36
10	10,26	99,99	29,74
20	11,56	99,99	28,44
30	12,51	99,99	27,49
40	13,10	99,99	26,90
50	13,28	99,99	26,72
60	13,09	99,99	26,91
70	12,48	99,99	27,52
80	11,55	99,99	28,45
90	10,24	99,99	29,76
270	0,00	99,99	40,00
280	0,00	99,99	40,00
290	0,00	99,99	40,00
300	0,00	99,99	40,00
310	0,00	99,99	40,00
320	0,00	99,99	40,00
330	2,36	99,99	37,64
340	4,63	99,99	35,37
350	6,74	99,99	33,26

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GOMES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS


P36 FPU
Max Allowable VCG Curve for Operation at Roncador Field
Limiting VCG for Operations at R
Operation outside the draft range 11.0m to 22.0m is prohibited. VCG's at Unit Operating Drafts are Indicated "◆"
VCG (m)
70
60
50
40
30
20
10
Not Allowed Operating VCG Area
Allowable Operating VCG Area
◆ VCG = 27,06 m
[Transit Draft - 11.0m]
◆ VCG = 24,18 m
[Fairlead Inspection Draft - 18.0m]
◆ VCG = 22,18 m
[Operating Draft - 22.0m]
10
11
12
13
14
15
16
17
18
19
20
21
22
23
Draft (m)

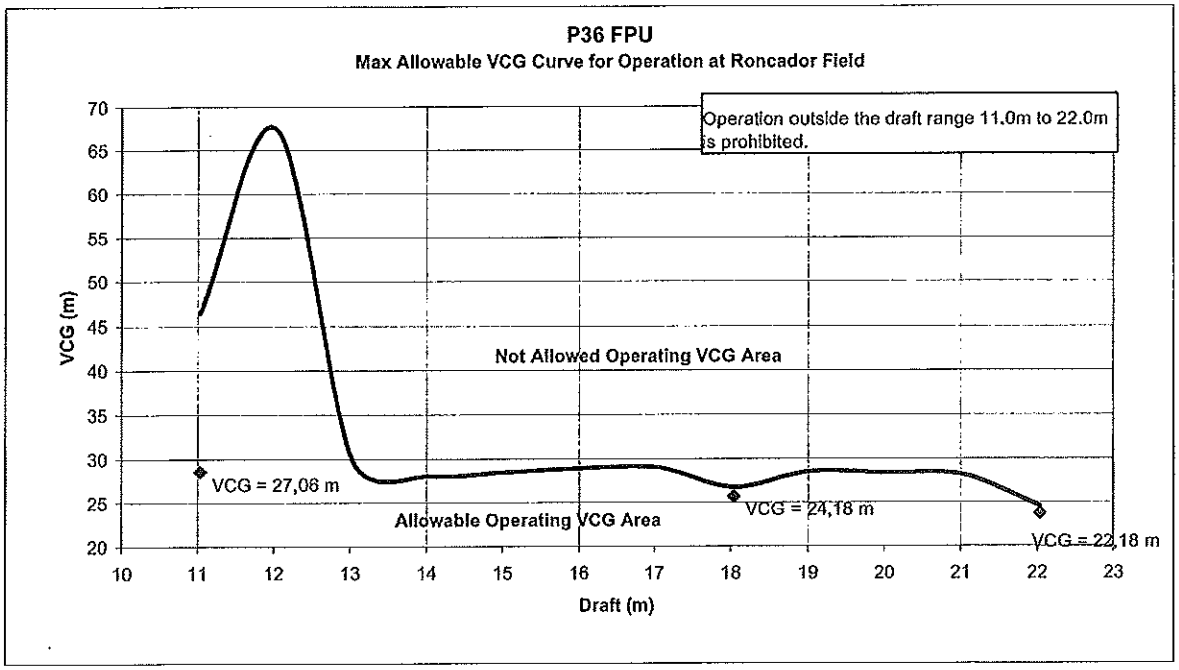
TRIBUNAL MARÍTIMO

WS 7/15/2166
Proj P36 Roncador
Client Petromec
Date 13/jan/98
By MSE
Chkd

Title **Allowable VCG for P36 at Roncador Field**

(All values are metres)

DRAFT	Assumed KG	$KM_{Limiting}$	GM_{fluid}	Limiting VCG for Operations at Roncador Field	Allowable Stability Margin	Limiting Condition
22,00	**22,18**	**27,20**	**5,02**	**23,04**	**0,86**	**Damaged Stability**
21,00		26,90	-	26,60		GM>0.3m (Transition)
20,00		27,10	-	26,80		GM>0.3m (Transition)
19,00		27,30	-	27,00		GM>0.3m (Transition)
18,00	**24,18**	**28,10**	**3,92**	**25,23**	**1,05**	**Damaged Stablity**
17,00		27,80	-	27,50		GM>0.3m (Transition)
16,00		27,70	-	27,40		GM>0.3m (Transition)
15,00		27,20	-	26,90		GM>0.3m (Transition)
14,00		26,80	-	26,50		GM>0.3m (Transition)
13,00		28,50	-	28,20		GM>0.3m (Transition)
12,00		66,20	-	65,90		GM>0.3m (Transition)
11,00	**27,06**	**70,50**	**43,44**	**44,90**	**17,84**	**Damaged Stability**



É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Petr[illegible]s 36 - Roncador Field Development
Operations Manual - Volume 7
Loading Condition:

Maximum Operating Condition - 2 Off SCR & Port Risers installed
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	46%	342	16,71	-30,88	0,96	0,004	0,008
SW Ballast 3S	728,7	1,025	16%	120	16,71	30,88	0,96	0,004	0,008
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	99%	260	27,71	22,82	2,93	0,000	0,004
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	99%	253	85,17	22,72	2,98	0,000	0,000
SW Ballast 17P	523,9	1,025	95%	509	84,58	-31,74	4,91	0,003	0,017
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	33%	250	96,07	-30,88	2,02	0,004	0,006
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	81%	634	98,66	-36,37	5,00	0,002	0,021
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				15142	46,80	2,81	5,24	0,02	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	736,9	56,8	-27,0	6,2	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	15141,8	46,80	2,81	5,24	0,018	0,064
Displacement	**56503,2**	**57,05**	**-0,02**	**21,20**	**0,022**	**0,077**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	40,55 m
MCTC	29,67 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

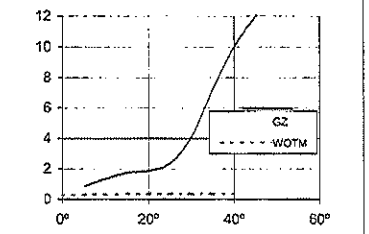
Statical Stability

Corrected VCG =	21,22 m	21,28 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	5,58 m	5,92 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	1,76 m

Righting Arm & Overturning Arm Curve



CÓPIA NÃO CONTROLADA
DOCUMENTO ORIGINAL

Loading Condition: Maximum Operating Condition - 2 Off SCR & Port Risers installed

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process PW)	6			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,99	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	389,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	389,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,02	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,64	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,9	56,70	0,04	5,05	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	97,01	-10,02	38,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,80	39,30	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,00	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,82	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,82	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,85	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,86	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,86	22,04	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,36	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,86	-30,07	40,67	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,67	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,66	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	100%	0,900	15,0	80,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	80,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	69,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	6,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Dilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Dilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.L.ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,30	-12,50	55,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,00	28,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,00	-28,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,35	-12,53	43,82	0,000	0,000
Helifuel Dep	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,66	26,76	43,04	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling Expansion Tank	T55102	100%	1,000	0,5	64,07	-6,20	52,91	0,000	0,000
Oily Water Separator	V-60201/V-60202	100%	0,900	1,4	80,77	0,00	20,80	0,000	0,000
Glycol Sump Tank	TO-120301	60%	1,060	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	48,47	0,000	0,000
Non Structural Tanks	0			32,1	58,97	6,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-28,01	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533801	100%	0,900	47,0	64,74	-16,71	10,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,85	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-682503	100%	0,900	36,5	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	18,85	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	8,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Maldk Separator	V-60212	100%	0,900	10,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,060	13,3	57,13	16,53	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,060	8,3	57,44	12,87	46,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,800	7,0	63,67	-19,55	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	0,4	96,94	22,68	40,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	92,98	16,29	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	30,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,09	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	26,61	17,04	45,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	23,00	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,26	11,95	46,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	46,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,05	46,86	0,000	0,000
Industrial Water System Piping		100%	1,000	40,1	56,39	0,00	43,00	0,000	0,000
Process Contnnt				1667,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-10	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	0,50
P-1-01	C1,C2	N	0,0	41,23	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	48,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,C14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,28	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,C27	N	0,0	65,64	18,57	6,32
P-1-10	E28,E29,E30	N	0,0	68,04	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	82,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	82,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	82,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	82,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	82,44	5,50	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	82,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	82,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	82,44	-0,50	29,25
Dark Lift Riser 6"	S18	N	0,0	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	82,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	82,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	82,44	-8,67	29,25
SPARE (P1 / LOC H))	S26,S27,S28	N	0,0	82,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	82,44	-14,25	29,25
Optical Cable	S32	N	0,0	82,44	-16,00	29,25
SPARE	W1	O	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RC-02	RC-2	Y	190,9	71,03	-30,29	9,00
Electr. Cable	W3	Y	25,6	82,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RC-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	9,00
Connected Risers	0		730,9	58,77	-28,97	9,25

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-13,02	41,12
Open Store	SD-04	0%	0,0	60,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,46	40,52
Dry Store 2	SD-06	25%	11,8	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	43,47	13,03	41,02
Crew & Effects	0	50%	13,0	45,72	0,00	41,02
Crew & Stores @ SD	0		104,1	69,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Sibd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Sibd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Sibd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Sibd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Sibd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Sibd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Sibd Fwd (Winch 11)	7S	337	63,9	20,31	31,12	16,19
Chain Locker - Sibd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,9	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	108,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	105,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	83,31	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	0,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,07	-23,86	37,58
Provision Warehouse	TT-06	60%	30,9	88,81	24,16	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	0,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,97	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		166,3	78,84	4,33	37,89

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	85,89	6,51	43,97
Deck Locker	MD-02	30%	0,7	48,89	6,51	43,97
Marine Equipment Storage	MD-03	60%	27,0	48,89	6,51	43,97
Crew & Stores @ MD	0		42,9	51,16	6,51	43,97

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,50	48,00
Toto Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,29	43,00
Compression A Laydown	LD-04	50%	29,6	93,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	85,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	85,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,40	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO ORIGINAL
BUREAU VERITAS MARITIME
DIVISÃO JURÍDICA

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	63%	472	16,71	-30,88	4,33	0,004	0,008
SW Ballast 3S	728,7	1,025	70%	522	16,71	30,88	4,33	0,004	0,008
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	12%	32	27,71	22,82	0,20	0,004	0,019
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	96%	517	28,19	31,74	5,02	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	33%	186	26,94	36,18	2,03	0,001	0,011
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	13%	33	85,17	22,72	0,21	0,004	0,019
SW Ballast 17P	523,9	1,025	71%	383	84,58	-31,74	3,33	0,003	0,017
SW Ballast 17S	523,9	1,025	32%	174	84,58	31,74	1,00	0,003	0,017
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	68%	506	96,07	30,88	4,20	0,004	0,008
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				13247	40,27	3,19	5,07	0,03	0,12

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	2631,7	82,5	-7,5	22,8	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	13247,0	40,27	3,19	5,07	0,031	0,123
Displacement	**56503,2**	**57,05**	**-0,02**	**21,97**	**0,036**	**0,136**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,89 m
MCTC	25,54 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

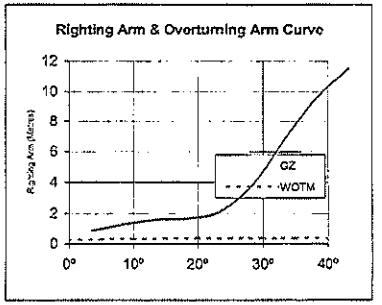
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,00 m	22,10 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,80 m	5,10 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,94 m



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Loading Condition: Maximum Operating Condition - 2 Off SCR & Port & Aft Risers installed

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	246,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	246,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,6	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,6	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,96	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	588,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	588,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,04	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2193,0	58,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-15,02	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	76,56	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	76,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	78,05	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,65	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	75,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	26,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	01,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	46,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122309	100%	0,900	15,0	89,87	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UQ-122308	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	0,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,36	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,36	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-15,56	53,05	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,53	-12,33	43,02	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,06	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	03,02	-8,30	52,91	0,000	0,000
FW Cooling Expansion Tank	T55102	100%	1,000	0,5	84,97	-8,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,000	1,4	86,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	59,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	30%	1,000	8,0	70,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	50,82	5,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	487,6	92,29	-26,51	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	487,4	92,28	+18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,48	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	84,74	+16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-682503	100%	0,900	38,5	59,46	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	18,66	37,38	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,88	17,60	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	81,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Marine Seperator	V-662212	100%	0,900	10,6	50,91	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	18,93	45,58	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,87	49,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	82,86	30,56	45,08	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	83,87	-10,36	44,21	0,000	0,000
Bessler Comp Process Pkg	A30003	100%	1,000	6,4	56,04	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,8	56,39	0,00	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	80,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	50,66	-21,66	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122305	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	58,39	0,00	43,00	0,000	0,000
Process Content				1987,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-16,27	6,80
P-1-13	N4,N5,N6	N	0,0	24,34	+16,27	6,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	6,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,84	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,84	18,57	6,32
P-1-04	E12,E13,C14	N	0,0	52,84	18,57	6,32
I-1-03	E15,E16	N	0,0	55,20	18,57	6,22
I-1-04	E17,E16	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,84	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,84	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,84	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,84	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,84	18,57	6,32
I-1-05	S1,S2	Y	108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	108,6	92,44	-8,87	29,25
FUTURE (WI) F1/1	S24,S25	Y	108,6	92,44	-9,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y	166,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,9	92,44	-14,25	29,25
Optical Cable	S32	Y	11,6	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,9	71,03	-35,28	6,00
Elect. Cable	W3	Y	25,8	82,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-30,29	0,00
Connected Risers	0		2831,7	82,45	-7,45	22,86

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,00	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,82	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	68,11	0,75	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	97,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	66,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	97,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	66,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	20,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,0	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,93	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,83	-38,00	18,29
Mooring Line (Winch 7)	P2	140	108,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	108,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,5	57,85	1,94	18,20

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	9,0	93,51	9,85	37,58
Pump Store Fwd	TT-02	99%	9,0	49,20	9,85	37,58
Mech Store 1	TT-03	25%	10,6	89,40	-31,10	37,58
Mech Store 2	TT-04	30%	9,0	81,40	-32,18	37,58
Mech Workshop	TT-05	20%	19,9	85,97	-23,56	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	3%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,58
Electrical Workshop	TT-10	50%	19,3	75,27	-8,19	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	9,2	75,37	4,83	37,58
Central Collision Laydown Area	TT-13	10%	0,0	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,87	22,62	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		160,3	78,84	4,33	37,68

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	95,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,19	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,89	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	30,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,67	0,71	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO ORIGINAL
PETROBRAS
DOCUMENTO ORIGINAL
MARITIMO

Petrobras 36 - Roncador Field Development
Operatons Manual - Volume 7
Loading Condition: Maximum Operating Condition - 2 Off SCR & Port, Aft & Starboard Risers Installed
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	32%	238	16,71	-30,88	1,74	0,003	0,004
SW Ballast 3S	728,7	1,025	29%	218	16,71	30,88	1,74	0,003	0,004
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	67%	357	28,19	31,74	3,01	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	44%	238	84,58	-31,74	1,62	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	90%	709	98,59	36,27	5,57	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				11427	37,66	0,74	5,19	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	4451,5	71,9	3,2	16,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	11427,2	37,66	0,74	5,19	0,014	0,063
Displacement	**56503,2**	**57,05**	**-0,02**	**22,03**	**0,019**	**0,077**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,55 m
MCTC	25,53 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

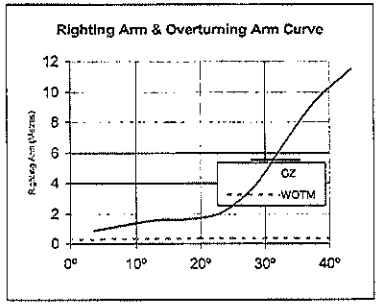
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,05 m	22,10 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,75 m	5,10 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,94 m



"CÓPIA FIEL DO DOCUMENTO ORIGINAL"
JOSÉ CARLOS MARTINS GUEDES
OFICIAL
SUBSTITUTO DO 3º OFÍCIO DE NOTAS
RIO DE JANEIRO

Loading Condition: Maximum Operating Condition - 2 Off SCR & Port, Aft & Starboard Risers Installed

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,56	-25,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,56	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,08	38,10	0,000	0,000
Potable Water	0			402,7	84,56	0,19	26,97	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,01	0,000	0,000
Fuel Oil	0			2363,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,8	67,81	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,8	78,58	16,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N2S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,000	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,000	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	79,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-39,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,80	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UO-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UO-122306	100%	0,900	15,0	89,66	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			88,2	84,90	0,10	40,54	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Stbd)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	84,39	-12,58	53,09	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,06	-26,70	27,00	0,000	0,000
Helifuel Reiuel	A58001	100%	1,000	7,9	34,55	-12,53	43,02	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	23,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,66	20,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,50	52,91	0,000	0,000
FW Cooling Expansion Tank	T55102	100%	1,000	0,5	94,97	-9,20	52,81	0,000	0,000
Oily Water Separators	V-06201/V-06202	100%	0,990	1,4	80,77	0,00	23,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-53360S	50%	1,000	8,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	6,28	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	457,8	90,29	-28,51	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	457,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-10,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122309	100%	1,000	5,6	89,87	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,66	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UO-682503	100%	0,900	38,0	58,48	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,5	50,08	17,80	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,39	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	83,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	83,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,875	14,5	62,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,95	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	69,87	-16,06	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,84	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	19,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	58,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	29,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,5	31,91	23,80	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	79,28	31,85	46,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,28	16,85	46,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,28	2,00	46,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	50,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-18,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	Y	108,6	41,28	18,57	0,22
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	46,04	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y	108,6	55,28	18,57	0,22
I-1-04	E17,E18	Y	108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,04	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	64,44	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	66,84	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,04	18,57	6,32
I-1-05	S1,S2	Y	108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 8"	S12	Y	93,8	92,44	3,50	29,25
P-1-14 (M/Fld) Riser 8"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMS6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMS12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 8"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 8"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	108,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y	166,6	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y	166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,9	92,44	-14,25	29,25
Optical Cable	S32	Y	11,0	92,44	-16,00	29,25
SPARE	W1	Y	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,9	71,03	-30,29	6,00
Electr. Cable	W3	Y	25,8	92,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RO-01	W4	Y	72,3	91,17	-18,57	6,16
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-30,29	6,00
Connected Risers	0		4451,5	71,02	3,19	16,06

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	86,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,62
Crew & Stores @ SD	0		104,1	60,11	0,26	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	10,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	10,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	10,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	10,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	3302	1021,9	56,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,20

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	66,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	61,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,80	37,58
Production Warehouse	TT-06	99%	30,9	66,01	24,15	37,58
Production Warehouse	TT-07	90%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,83	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		160,3	78,64	4,35	37,80

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	85,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicoptar & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	20,5	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,48	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicoptar & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO ORIGINAL
PETROBRAS
GERÊNCIA DE ENGENHARIA DE PROJETOS DE UNIDADES DE PRODUÇÃO
GEPUN
ENGENHARIA DE PROJETOS

Loading Condition: Maximum Operating Condition 2 Off SCR & All Flexible Risers Installed
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,40	0,80	5,42	0,007	0,055
Displacement	**56503,2**	**57,05**	**-0,02**	**22,11**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,03 m
MCTC	25,18 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

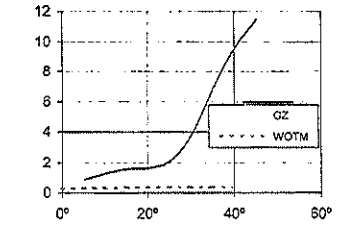
Statical Stability

Corrected VCG =	22,12 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,68 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m

Righting Arm & Overturning Arm Curve



CÓPIA FIEL DO DOCUMENTO ORIGINAL
DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	46,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,38	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,6	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,6	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,04	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,61	0,000	0,000
Fuel Oil	0			2389,0	56,70	0,04	5,08	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-15,02	35,61	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,61	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	78,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,09	-3,56	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,95	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	90%	1,000	9,0	80,72	-24,05	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,8	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,66	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,56	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulte 'C'	UO-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulte 'B'	UO-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulte 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			86,2	84,90	5,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.I.L.ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L.ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	70,72	-26,20	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,20	35,10	0,000	0,000
Miscellaneous Tanks	0			112,9	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd dmn p-tk	T05001A	0%	1,316	0,0	26,00	26,70	27,00	0,000	0,000
Fwd dmn p-tk	T05001B	0%	1,316	0,0	26,15	24,23	27,00	0,000	0,000
Fwd dmn p-tk	T05001A	0%	1,316	0,0	26,15	-24,23	27,00	0,000	0,000
Fwd dmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,80	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	03,02	-5,30	32,91	0,000	0,000
FW Cooling Expansion Tank	T55102	100%	1,000	0,5	64,97	-6,20	32,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TG-123301	90%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	6,0	76,22	6,44	48,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	6,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	407,8	92,29	-28,91	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	407,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	76,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533001	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UO-682503	100%	0,900	38,5	35,48	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	91,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,5	30,08	17,60	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	10,0	48,12	2,33	53,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	53,78	0,000	0,000
Skim Pile Matrix Separator	V-50212	100%	0,000	10,6	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,075	14,5	62,66	30,50	45,66	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,53	23,08	38,65	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	69,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,94	22,68	48,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	56,38	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	40,2	74,40	0,00	17,97	0,000	0,000
Process Piping & Valves		100%	0,650	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,00	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	25,81	-17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,935	43,3	31,91	23,90	46,96	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1657,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,9	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y	163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	166,7	24,34	17,37	6,50
I-1-01	C1,C2	Y	166,5	41,26	18,57	6,32
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	40,04	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y	166,5	55,26	18,57	6,22
I-1-04	C17,C18	Y	166,5	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,04	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,04	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,04	18,57	6,32
I-1-05	S1,S2	Y	166,5	82,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	82,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,9	82,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	82,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	82,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	82,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	82,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,9	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	82,44	-5,00	29,25
I-1-02	S22,S23	Y	108,6	82,44	-6,87	29,25
FUTURE (W) F1/1	S24,S25	Y	108,6	82,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y	166,9	82,44	-11,25	29,25
SPARE (RJG-513)	S29,S30,S31	Y	166,9	82,44	-14,25	29,25
Optical Cable	S32	Y	11,6	82,44	-16,00	29,25
SPARE	W1	D	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,9	71,63	-36,29	6,00
Elect. Cable	W3	Y	25,6	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,58	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,8	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,50	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-10,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,62
Dry Store 2	SD-06	25%	11,5	37,21	19,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,02
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,02	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,33	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,10	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,10	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	90%	8,0	83,51	9,85	37,88
Pump Store Fwd	TT-02	90%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	20%	10,8	88,49	-31,10	37,88
Mech Store 2	TT-04	30%	9,0	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	80%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	80%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	30%	10,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	9,2	75,27	4,63	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		169,3	78,84	4,35	37,89

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	65,89	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,62	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	86,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	85,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	85,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	39,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	0,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO ORIGINAL
DIVISÃO JURÍDICA MARÍTIMA

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS 7/15/2177
Proj P36-Roncador
Client Petromec
Date dez/98
By AT
Chkd MSE

Subj **Riser Hang-off Loads - Stability Summary - 4 load Conditions**

Ref **Ref Drg: DE-3010.38-6000-942-NBD-100 Rev F**

SCR Top Angle 20°

	Total Riser Weight (Tonnes)	LCG (metres)	TCG (metres)	VCG (metres)
2xSCR & Port Risers installed	737	56,77	-26,97	6,23
2xSCR & Port and Aft risers installed	2632	82,45	-7,47	22,80
2xSCR & Port, Aft and Starboard Risers Installed	4452	71,92	3,19	16,06
2xSCR & All Risers Installed	5052	66,26	2,77	15,15

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JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Project P36 Roncador
Subject Downflooding Points
By MSE
Date 18/jan/99

		Coordinates from Genstab Origin		
DF Point	Description	X	Y	Z
1	Chain Pipe	87,93	-36,73	39,62
2	Chain Pipe	84,58	-36,73	39,62
3	Chain Pipe	81,23	-36,73	39,62
4	Chain Pipe	31,55	-36,73	39,62
5	Chain Pipe	28,20	-36,73	39,62
6	Chain Pipe	24,85	-36,73	39,62
7	Chain Pipe	21,98	-36,73	39,62
8	Chain Pipe	90,79	-36,73	39,62
9	Vent	91,04	-30,68	40,38
10	Vent	90,96	-31,45	40,38
11	Vent	90,72	-32,29	40,38
12	Vent	90,34	-33,17	40,38
13	Vent	87,30	-33,59	40,38
14	Vent	90,97	-27,91	40,38
15	Vent	89,47	-33,48	40,38
16	Vent	87,39	-33,49	40,38
17	Vent	21,14	-32,46	40,38
18	Vent	21,64	-32,99	40,38
19	Vent	21,74	-34,51	40,38
20	Vent	21,06	-31,52	40,38
21	Vent	22,46	-34,79	40,38
22	Vent	21,14	-31,63	40,38
23	Vent	20,64	-32,54	40,38
24	Vent	21,87	-33,57	40,38
25	Vent	22,51	-34,29	40,38
26	Vent	22,88	-35,03	40,38
27	Caisson Penetration	45,67	1,95	33,81
28	Caisson Penetration	45,67	3,68	33,81
29	Caisson Penetration	46,19	4,95	33,81
30	Caisson Penetration	47,27	6,00	33,81
31	Caisson Penetration	67,19	1,50	34,37
32	Caisson Penetration	67,19	3,75	34,37
33	Caisson Penetration	66,59	5,10	34,37
34	Caisson Penetration	65,54	6,00	34,37
35	Caisson Penetration	62,69	9,15	34,37
36	Caisson Penetration	61,49	10,20	34,37
37	Caisson Penetration	60,14	10,80	34,37
38	Caisson Penetration	57,89	10,80	34,37
39	Caisson Penetration	54,89	10,80	34,37
40	Caisson Penetration	52,19	10,80	34,37
41	Caisson Penetration	51,14	10,05	34,37

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JOSÉ CARLOS PINHEIRO AUGUSTO
DIRETOR
DIVISÃO DE SERVIÇOS NOTARIAIS

JUSTIÇA JUDICIÁRIA
TRIBUNAL MARÍTIMO

P36 Roncador
Stability Analysis
Downflooding Points

No.	Type	LCG fr AP	TCG +stbd	VCG (abl)
1	Chain Pipe	87,93	-36,73	39,62
2	Chain Pipe	84,58	-36,73	39,62
3	Chain Pipe	81,23	-36,73	39,62
4	Chain Pipe	31,55	-36,73	39,62
5	Chain Pipe	28,20	-36,73	39,62
6	Chain Pipe	24,85	-36,73	39,62
7	Chain Pipe	21,98	-36,73	39,62
8	Chain Pipe	90,79	-36,73	39,62
9	Vent	91,04	-30,68	40,38
10	Vent	90,96	-31,45	40,38
11	Vent	90,72	-32,29	40,38
12	Vent	90,34	-33,17	40,38
13	Vent	87,30	-33,59	40,38
14	Vent	90,97	-27,91	40,38
15	Vent	89,47	-33,48	40,38
16	Vent	87,39	-33,49	40,38
17	Vent	21,14	-32,46	40,38
18	Vent	21,64	-32,99	40,38
19	Vent	21,74	-34,51	40,38
20	Vent	21,06	-31,52	40,38
21	Vent	22,46	-34,79	40,38
22	Vent	21,14	-31,63	40,38
23	Vent	20,64	-32,54	40,38
24	Vent	21,87	-33,57	40,38
25	Vent	22,51	-34,29	40,38
26	Vent	22,88	-35,03	40,38
27	Caisson Penetration	45,67	1,95	33,81
28	Caisson Penetration	45,67	3,68	33,81
29	Caisson Penetration	46,19	4,95	33,81
30	Caisson Penetration	47,27	6,00	33,81
31	Caisson Penetration	67,19	1,50	34,37
32	Caisson Penetration	67,19	3,75	34,37
33	Caisson Penetration	66,59	5,10	34,37
34	Caisson Penetration	65,54	6,00	34,37
35	Caisson Penetration	62,69	9,15	34,37
36	Caisson Penetration	61,49	10,20	34,37
37	Caisson Penetration	60,14	10,80	34,37
38	Caisson Penetration	57,89	10,80	34,37
39	Caisson Penetration	54,89	10,80	34,37
40	Caisson Penetration	52,19	10,80	34,37
41	Caisson Penetration	51,14	10,05	34,37

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DIRETOR

Summary of Wind/Current Area Data

Draft	Displacement	Projected front area under water	X from amidships (+ve aft, m)	Y from Centreline (+ve stbd, m)	Z above keel (m)	VCB (m)	Vertical Current Lever (m)
22	56520,669	1153,210	---	0,000	12,242	8,950	3,292
21	54993,590	1102,759	---	0,000	11,904	8,610	3,294
20	53466,522	1052,309	---	0,000	11,566	8,270	3,296
19	51948,613	1001,859	---	0,000	11,227	7,940	3,287
18	50432,886	951,408	---	0,000	10,889	7,580	3,309
14,5	45275,686	650,478	---	0,000	8,423	6,600	1,823
12,5	41990,115	568,701	---	0,000	5,577	6,080	-0,503
11	37125,749	463,015	---	0,000	6,709	5,350	1,359

Draft	Displacement	Projected side area under water	X from amidships (+ve aft, m)	Y from Centreline (+ve stbd, m)	Z above keel (m)	VCB (m)	Vertical Current Lever (m)
22	56520,669	1814,789	0,114	---	10,837	8,950	1,887
21	54993,590	1773,458	0,118	---	10,429	8,610	1,819
20	53466,522	1732,126	0,122	---	10,020	8,270	1,750
19	51948,613	1690,795	0,125	---	9,612	7,940	1,672
18	50432,886	1649,463	0,129	---	9,204	7,580	1,624
14,5	45275,686	1359,217	0,092	---	7,039	6,600	0,439
12,5	41990,115	1013,834	0,000	---	5,537	6,080	-0,543
11	37125,749	1149,232	0,000	---	5,787	5,350	0,437

Draft	Displacement	Projected front area above water	X from amidships (+ve aft, m)	Y from Centreline (+ve stbd, m)	Z above keel (m)	VCB (m)	Vertical Wind Lever (m)
22	56520,669	2877,432	---	0,395	44,887	8,950	35,937
21	54993,590	2925,515	---	0,407	44,990	8,610	36,380
20	53466,522	2973,598	---	0,419	45,092	8,270	36,822
19	51948,613	3021,681	---	0,430	45,195	7,940	37,255
18	50432,886	3069,764	---	0,442	45,297	7,580	37,717
14,5	45275,686	3370,101	---	0,403	42,218	6,600	35,618
12,5	41990,115	3485,424	---	-0,091	42,083	6,080	36,003
11	37125,749	3856,344	---	0,449	38,889	5,350	33,539

Draft	Displacement	Projected side area above water	X from amidships (+ve aft, m)	Y from Centreline (+ve stbd, m)	Z above keel (m)	VCB (m)	Vertical Wind Lever (m)
22	56520,669	3128,299	6,557	---	48,143	8,950	39,193
21	54993,590	2925,515	6,626	---	47,692	8,610	39,082
20	53466,522	2973,598	6,695	---	47,240	8,270	38,970
19	51948,613	3021,681	6,764	---	46,789	7,940	38,849
18	50432,886	3358,011	6,833	---	46,337	7,580	38,757
14,5	45275,686	3704,257	6,218	---	42,709	6,600	36,109
12,5	41990,115	3779,741	7,268	---	43,085	6,080	37,005
11	37125,749	4273,969	6,427	---	39,226	5,350	33,876

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JOSÉ CARLOS PIMENTEL GUIMARÃO
DIVISÃO DE SERVIÇOS CARTORIAIS



WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Horizontal Wind area Calculation**

All Data taken from F & G report L1050

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	22 m

Force due to 51.4m\s wind
= 1048583,00 kg
= 1048,58 t

Force due to a 1m/s wind
= 0,40 t

Height of centre of area
= 20,6 m

Wind lever (20.6 +(22.00-VCB))
= 33,65 m

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	22 m

Force due to 51.4m\s wind
= 1023847,00 kg
= 1023,85 t

Force due to a 1m/s wind
= 0,39 t

Height of centre of area
= 20,89 m

Wind lever (20.89 +(22.00-VCB))
= 33,94 m

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2785

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	22 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,22 tonnes	39,19
Horizontal	0,40 tonnes	33,65

Moment due to a 1m/s wind	
Vertical	8,79 tm
Horizontal	13,36 tm

Moment due to a 41.2m/s wind	
Vertical	14918,26 tm
Horizontal	22670,24 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	14918,26
2,5	0,044	15877,79
5	0,087	16773,26
7,5	0,131	17597,84
10	0,175	18345,26
12,5	0,218	19009,82
15	0,262	19586,48
17,5	0,305	20070,85
20	0,349	20459,23
22,5	0,393	20748,67
25	0,436	20936,97
27,5	0,480	21022,70
30	0,524	21005,19
32,5	0,567	20884,60
35	0,611	20661,83
37,5	0,654	20338,58
40	0,698	19917,31

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JOSÉ CARLOS PINHEIRO GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	22 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,22 tonnes	39,19
Horizontal	0,40 tonnes	33,65

Moment due to a 1m/s wind	
Vertical	8,79 tm
Horizontal	13,36 tm

Moment due to a 25.7m/s wind	
Vertical	5804,84 tm
Horizontal	8821,20 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5804,84
2,5	0,044	6178,20
5	0,087	6526,63
7,5	0,131	6847,49
10	0,175	7138,31
12,5	0,218	7396,90
15	0,262	7621,29
17,5	0,305	7809,76
20	0,349	7960,88
22,5	0,393	8073,50
25	0,436	8146,77
27,5	0,480	8180,13
30	0,524	8173,32
32,5	0,567	8126,40
35	0,611	8039,71
37,5	0,654	7913,93
40	0,698	7750,01

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JOSÉ CARLOS PIMENTEL GUEDES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	22 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,21 tonnes	35,94
Horizontal	0,39 tonnes	33,94

Moment due to a 1m/s wind	
Vertical	7,67 tm
Horizontal	13,15 tm

Moment due to a 41.2m/s wind	
Vertical	13015,33 tm
Horizontal	22326,21 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	13015,33
2,5	0,044	13963,50
5	0,087	14854,92
7,5	0,131	15682,81
10	0,175	16440,88
12,5	0,218	17123,35
15	0,262	17725,02
17,5	0,305	18241,33
20	0,349	18668,33
22,5	0,393	19002,79
25	0,436	19242,15
27,5	0,480	19384,59
30	0,524	19429,03
32,5	0,567	19375,13
35	0,611	19223,31
37,5	0,654	18974,71
40	0,698	18631,22

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIQUET GUEDES
DIRETOR
DIVISÃO DE SERVIÇOS PORTUÁRIOS

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	22 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,21 tonnes	35,94
Horizontal	0,39 tonnes	33,94

Moment due to a 1m/s wind	
Vertical	7,67 tm
Horizontal	13,15 tm

Moment due to a 25.7m/s wind	
Vertical	5064,39 tm
Horizontal	8687,34 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5064,39
2,5	0,044	5433,33
5	0,087	5780,19
7,5	0,131	6102,33
10	0,175	6397,30
12,5	0,218	6662,86
15	0,262	6896,97
17,5	0,305	7097,87
20	0,349	7264,03
22,5	0,393	7394,17
25	0,436	7487,30
27,5	0,480	7542,73
30	0,524	7560,02
32,5	0,567	7539,05
35	0,611	7479,97
37,5	0,654	7383,24
40	0,698	7249,59

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Horizontal Wind area Calculation**

Data interpolated from F & G report L1050 for 22m and 18m Draughts

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	21 m

Force due to 51.4m\s wind
= 1050349,50 kg
= 1050,35 t

Force due to a 1m/s wind
= 0,40 t

Height of centre of area
= 21,59 m

Wind lever (21.59 +(22.00-VCB))
= 33,98 m

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	21 m

Force due to 51.4m\s wind
= 1023847,00 kg
= 1023,85 t

Force due to a 1m/s wind
= 0,39 t

Height of centre of area
= 21,89 m

Wind lever (21.89 +(22.00-VCB))
= 34,28 m

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTA GUIMARÃES
DIRETOR
DIVISÃO DE REGISTROS CADASTRAIS

2790

WS 7/15/2146
Proj P36 Roncador
Client Petromec
Date 27/ago/97
By SCE
Chkd

Title **Intact WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	21 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,23 tonnes	38,85
Horizontal	0,40 tonnes	33,98125

Moment due to a 1m/s wind	
Vertical	8,97 tm
Horizontal	13,51 tm

Moment due to a 41.2m/s wind	
Vertical	15229,11 tm
Horizontal	22931,97 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	15229,11
2,5	0,044	16199,46
5	0,087	17104,48
7,5	0,131	17937,27
10	0,175	18691,50
12,5	0,218	19361,42
15	0,262	19941,95
17,5	0,305	20428,66
20	0,349	20817,84
22,5	0,393	21106,54
25	0,436	21292,55
27,5	0,480	21374,47
30	0,524	21351,67
32,5	0,567	21224,32
35	0,611	20993,39
37,5	0,654	20660,64
40	0,698	20228,60

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

TRIBUNAL MARÍTIMO
2491

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	21 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,23 tonnes	39,19
Horizontal	0,40 tonnes	33,98125

Moment due to a 1m/s wind	
Vertical	9,05 tm
Horizontal	13,51 tm

Moment due to a 25.7m/s wind	
Vertical	5978,35 tm
Horizontal	8923,05 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5978,35
2,5	0,044	6355,82
5	0,087	6707,67
7,5	0,131	7031,22
10	0,175	7324,01
12,5	0,218	7583,81
15	0,262	7808,64
17,5	0,305	7996,79
20	0,349	8146,83
22,5	0,393	8257,61
25	0,436	8328,30
27,5	0,480	8358,36
30	0,524	8347,55
32,5	0,567	8295,97
35	0,611	8203,99
37,5	0,654	8072,33
40	0,698	7901,98

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS FIGUEIREDO SOUSA
DIRETOR
DIVISÃO DE SEGURANÇA NAVEGAÇÃO

2192

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	21 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,22 tonnes	37,25
Horizontal	0,39 tonnes	34,279

Moment due to a 1m/s wind	
Vertical	8,15 tm
Horizontal	13,28 tm

Moment due to a 41.2m/s wind	
Vertical	13840,03 tm
Horizontal	22549,21 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	13840,03
2,5	0,044	14796,34
5	0,087	15692,71
7,5	0,131	16522,32
10	0,175	17278,84
12,5	0,218	17956,53
15	0,262	18550,23
17,5	0,305	19055,41
20	0,349	19468,23
22,5	0,393	19785,55
25	0,436	20004,96
27,5	0,480	20124,79
30	0,524	20144,12
32,5	0,567	20062,80
35	0,611	19881,46
37,5	0,654	19601,48
40	0,698	19224,98

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	21 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,22 tonnes	35,94
Horizontal	0,39 tonnes	34,279

Moment due to a 1m/s wind	
Vertical	7,87 tm
Horizontal	13,28 tm

Moment due to a 25.7m/s wind	
Vertical	5194,81 tm
Horizontal	8774,11 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5194,81
2,5	0,044	5567,28
5	0,087	5917,15
7,5	0,131	6241,76
10	0,175	6538,63
12,5	0,218	6805,50
15	0,262	7040,35
17,5	0,305	7241,38
20	0,349	7407,07
22,5	0,393	7536,16
25	0,436	7627,66
27,5	0,480	7680,88
30	0,524	7695,41
32,5	0,567	7671,14
35	0,611	7608,25
37,5	0,654	7507,23
40	0,698	7368,84

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

JUDICIAIS
2-fls 4
TRIBUNAL

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Horizontal Wind area Calculation**

Data interpolated from F & G report L1050 for 22m and 18m Draughts

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	20 m

Force due to 51.4m\s wind
= 1052116,00 kg
= 1052,12 t

Force due to a 1m/s wind
= 0,40 t

Height of centre of area
= 22,58 m

Wind lever (22.58 +(22.00-VCB))
= 34,31 m

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	20 m

Force due to 51.4m\s wind
= 1023847,00 kg
= 1023,85 t

Force due to a 1m/s wind
= 0,39 t

Height of centre of area
= 22,89 m

Wind lever (22.89 +(22.00-VCB))
= 34,62 m

É CÓPIA DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

DIVISÃO JUDICIÁRIA
4795
TRIBUNAL

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	20 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	38,85
Horizontal	0,40 tonnes	34,3125

Moment due to a 1m/s wind	
Vertical	9,23 tm
Horizontal	13,66 tm

Moment due to a 41.2m/s wind	
Vertical	15671,12 tm
Horizontal	23194,46 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	15671,12
2,5	0,044	16652,07
5	0,087	17565,92
7,5	0,131	18405,71
10	0,175	19165,06
12,5	0,218	19838,19
15	0,262	20419,97
17,5	0,305	20905,97
20	0,349	21292,50
22,5	0,393	21576,61
25	0,436	21756,15
27,5	0,480	21829,74
30	0,524	21796,83
32,5	0,567	21657,67
35	0,611	21413,31
37,5	0,654	21065,61
40	0,698	20617,23

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
2796
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	20 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	39,19
Horizontal	0,40 tonnes	34,3125

Moment due to a 1m/s wind	
Vertical	9,31 tm
Horizontal	13,66 tm

Moment due to a 25.7m/s wind	
Vertical	6151,86 tm
Horizontal	9025,18 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	6151,86
2,5	0,044	6533,46
5	0,087	6888,74
7,5	0,131	7215,00
10	0,175	7509,76
12,5	0,218	7770,78
15	0,262	7996,06
17,5	0,305	8183,90
20	0,349	8332,87
22,5	0,393	8441,83
25	0,436	8509,95
27,5	0,480	8536,71
30	0,524	8521,92
32,5	0,567	8465,67
35	0,611	8368,41
37,5	0,654	8230,87
40	0,698	8054,10

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA GUEDES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

TRIBUNAL MARÍTIMO 2797

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	20 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,22 tonnes	37,25
Horizontal	0,39 tonnes	34,618

Moment due to a 1m/s wind	
Vertical	8,36 tm
Horizontal	13,42 tm

Moment due to a 41.2m/s wind	
Vertical	14187,49 tm
Horizontal	22772,21 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	14187,49
2,5	0,044	15152,86
5	0,087	16056,90
7,5	0,131	16892,72
10	0,175	17653,96
12,5	0,218	18334,84
15	0,262	18930,16
17,5	0,305	19435,40
20	0,349	19846,72
22,5	0,393	20160,97
25	0,436	20375,78
27,5	0,480	20489,50
30	0,524	20501,27
32,5	0,567	20411,01
35	0,611	20219,39
37,5	0,654	19927,87
40	0,698	19538,69

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS

TRIBUNAL MARÍTIMO 2798

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	20 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,22 tonnes	35,94
Horizontal	0,39 tonnes	34,618

Moment due to a 1m/s wind	
Vertical	8,06 tm
Horizontal	13,42 tm

Moment due to a 25.7m/s wind	
Vertical	5325,22 tm
Horizontal	8860,88 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5325,22
2,5	0,044	5701,23
5	0,087	6054,11
7,5	0,131	6381,18
10	0,175	6679,95
12,5	0,218	6948,14
15	0,262	7183,72
17,5	0,305	7384,89
20	0,349	7550,12
22,5	0,393	7678,16
25	0,436	7768,02
27,5	0,480	7819,03
30	0,524	7830,79
32,5	0,567	7803,22
35	0,611	7736,53
37,5	0,654	7631,23
40	0,698	7488,10

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUDINHO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS



WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Horizontal Wind area Calculation**

Data interpolated from F & G report L1050 for 22m and 18m Draughts

Heel Axis 0 degrees
Wind Direction 90 degrees
Draft 19 m

Force due to 51.4m\s wind
= 1053882,50 kg
= 1053,88 t

Force due to a 1m/s wind
= 0,40 t

Height of centre of area
= 23,57 m

Wind lever (23.57+(22.00-VCB))
= 34,63 m

Heel Axis 90 degrees
Wind Direction 0 degrees
Draft 19 m

Force due to 51.4m\s wind
= 1023847,00 kg
= 1023,85 t

Force due to a 1m/s wind
= 0,39 t

Height of centre of area
= 23,89 m

Wind lever (23.89 +(22.00-VCB))
= 34,95 m

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSTÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	19 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	38,85
Horizontal	0,40 tonnes	34,63375

Moment due to a 1m/s wind	
Vertical	9,49 tm
Horizontal	13,82 tm

Moment due to a 41.2m/s wind	
Vertical	16113,12 tm
Horizontal	23450,92 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	16113,12
2,5	0,044	17104,41
5	0,087	18026,83
7,5	0,131	18873,38
10	0,175	19637,60
12,5	0,218	20313,68
15	0,262	20896,48
17,5	0,305	21381,56
20	0,349	21765,23
22,5	0,393	22044,56
25	0,436	22217,44
27,5	0,480	22282,55
30	0,524	22239,39
32,5	0,567	22088,29
35	0,611	21830,40
37,5	0,654	21467,68
40	0,698	21002,89

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUERRA
DIRETOR
DIVISÃO DE SERVIÇOS AUXILIARES

JUSTIÇA JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	19 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	39,19
Horizontal	0,40 tonnes	34,63375

Moment due to a 1m/s wind	
Vertical	9,58 tm
Horizontal	13,82 tm

Moment due to a 25.7m/s wind	
Vertical	6325,38 tm
Horizontal	9124,98 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	6325,38
2,5	0,044	6710,99
5	0,087	7069,60
7,5	0,131	7398,47
10	0,175	7695,11
12,5	0,218	7957,25
15	0,262	8182,90
17,5	0,305	8370,35
20	0,349	8518,16
22,5	0,393	8625,21
25	0,436	8690,69
27,5	0,480	8714,10
30	0,524	8695,26
32,5	0,567	8634,32
35	0,611	8531,73
37,5	0,654	8388,28
40	0,698	8205,06

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

JUDICIÁRIA
23 C2
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	19 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,23 tonnes	37,25
Horizontal	0,39 tonnes	34,947

Moment due to a 1m/s wind	
Vertical	8,56 tm
Horizontal	13,54 tm

Moment due to a 41.2m/s wind	
Vertical	14534,95 tm
Horizontal	22988,63 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	14534,95
2,5	0,044	15509,09
5	0,087	16420,51
7,5	0,131	17262,26
10	0,175	18027,95
12,5	0,218	18711,75
15	0,262	19308,45
17,5	0,305	19813,51
20	0,349	20223,09
22,5	0,393	20534,06
25	0,436	20744,07
27,5	0,480	20851,52
30	0,524	20855,58
32,5	0,567	20756,23
35	0,611	20554,22
37,5	0,654	20251,09
40	0,698	19849,15

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA DE SOUZA
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

TRIBUNAL MARITIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	19 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,23 tonnes	35,94
Horizontal	0,39 tonnes	34,947

Moment due to a 1m/s wind	
Vertical	8,26 tm
Horizontal	13,54 tm

Moment due to a 25.7m/s wind	
Vertical	5455,64 tm
Horizontal	8945,10 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5455,64
2,5	0,044	5835,07
5	0,087	6190,85
7,5	0,131	6520,27
10	0,175	6820,84
12,5	0,218	7090,25
15	0,262	7326,46
17,5	0,305	7527,67
20	0,349	7692,35
22,5	0,393	7819,25
25	0,436	7907,40
27,5	0,480	7956,13
30	0,524	7965,07
32,5	0,567	7934,15
35	0,611	7863,61
37,5	0,654	7753,98
40	0,698	7606,10

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PIMENTEL GUSMÃO
DIRETOR
DIVISÃO DE SERVIÇOS AUXILIARES

DIVISÃO JUDICIAL
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Horizontal Wind area Calculation**

All Data taken from F & G report L1050

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	18 m

Force due to 51.4m\s wind
= 1055649 kg
= 1055,649 t

Force due to a 1m/s wind
= 0,3995704 t

Height of centre of area
= 24,565 m

Wind lever (24.56 +(18.00-VCB))
= 34,985 m

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	18 m

Force due to 51.4m\s wind
= 1023847 kg
= 1023,847 t

Force due to a 1m/s wind
= 0,387533 t

Height of centre of area
= 24,886 m

Wind lever (24.89 +(18.00-VCB))
= 35,306 m

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PRAZERES GUSMÃO
OFICIAL
DIVISÃO DE SERVIÇOS CARTORIAIS

TRIBUNAL MARITIMO 3805

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,25 tonnes	38,76
Horizontal	0,40 tonnes	34,99

Moment due to a 1m/s wind	
Vertical	9,73 tm
Horizontal	13,98 tm

Moment due to a 41.2m/s wind (100 Year storm)	
Vertical	16516,13 tm
Horizontal	23728,46 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	16516,13
2,5	0,044	17518,74
5	0,087	18450,87
7,5	0,131	19305,43
10	0,175	20075,91
12,5	0,218	20756,45
15	0,262	21341,87
17,5	0,305	21827,72
20	0,349	22210,29
22,5	0,393	22486,68
25	0,436	22654,77
27,5	0,480	22713,30
30	0,524	22661,82
32,5	0,567	22500,72
35	0,611	22231,22
37,5	0,654	21855,38
40	0,698	21376,05

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO GUSTÃO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
Nº 2800
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	37,72
Horizontal	0,39 tonnes	35,31

Moment due to a 1m/s wind	
Vertical	8,88 tm
Horizontal	13,68 tm

Moment due to a 41.2m/s wind (100 Year storm)	
Vertical	15067,20 tm
Horizontal	23224,79 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	15067,20
2,5	0,044	16050,62
5	0,087	16969,22
7,5	0,131	17816,00
10	0,175	18584,54
12,5	0,218	19268,97
15	0,262	19864,08
17,5	0,305	20365,36
20	0,349	20768,97
22,5	0,393	21071,86
25	0,436	21271,71
27,5	0,480	21367,01
30	0,524	21357,03
32,5	0,567	21241,84
35	0,611	21022,32
37,5	0,654	20700,15
40	0,698	20277,77

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA DE SOUZA JÚNIOR
DIRETOR
DIVISÃO DE REGISTROS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
2307
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,25 tonnes	38,76
Horizontal	0,40 tonnes	34,99

Moment due to a 1m/s wind	
Vertical	9,73 tm
Horizontal	13,98 tm

Moment due to a 25.7m/s wind (100 Year storm)	
Vertical	6426,58 tm
Horizontal	9232,97 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	6426,58
2,5	0,044	6816,71
5	0,087	7179,41
7,5	0,131	7511,93
10	0,175	7811,73
12,5	0,218	8076,53
15	0,262	8304,33
17,5	0,305	8493,37
20	0,349	8642,23
22,5	0,393	8749,78
25	0,436	8815,19
27,5	0,480	8837,96
30	0,524	8817,93
32,5	0,567	8755,24
35	0,611	8650,38
37,5	0,654	8504,13
40	0,698	8317,62

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINTO DIRETOR DIVISÃO DE SERVIÇOS AUXILIARES

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	37,72
Horizontal	0,39 tonnes	35,31

Moment due to a 1m/s wind	
Vertical	8,88 tm
Horizontal	13,68 tm

Moment due to a 25.7m/s wind (100 Year storm)	
Vertical	5862,79 tm
Horizontal	9036,99 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5862,79
2,5	0,044	6245,45
5	0,087	6602,88
7,5	0,131	6932,38
10	0,175	7231,42
12,5	0,218	7497,74
15	0,262	7729,30
17,5	0,305	7924,35
20	0,349	8081,40
22,5	0,393	8199,26
25	0,436	8277,02
27,5	0,480	8314,11
30	0,524	8310,22
32,5	0,567	8265,40
35	0,611	8179,98
37,5	0,654	8054,62
40	0,698	7890,27

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO CARNEIRO
DIRETOR
DIVISÃO DE DOCUMENTAÇÃO

DIVISÃO JUDICIÁRIA
2809
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,25 tonnes	38,76
Horizontal	0,40 tonnes	34,99

Moment due to a 1m/s wind	
Vertical	9,73 tm
Horizontal	13,98 tm

Moment due to a 23.5m/s wind (1 Year storm)	
Vertical	5373,40 tm
Horizontal	7719,89 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5373,40
2,5	0,044	5699,60
5	0,087	6002,86
7,5	0,131	6280,88
10	0,175	6531,55
12,5	0,218	6752,96
15	0,262	6943,43
17,5	0,305	7101,49
20	0,349	7225,96
22,5	0,393	7315,88
25	0,436	7370,57
27,5	0,480	7389,61
30	0,524	7372,86
32,5	0,567	7320,45
35	0,611	7232,77
37,5	0,654	7110,49
40	0,698	6954,55

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA DE SOUZA
DIRETOR
DIVISÃO DE SERVIÇOS AUXILIARES

DIVISÃO JUDICIÁRIA
2512
TRIBUNAL

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	37,72
Horizontal	0,39 tonnes	35,31

Moment due to a 1m/s wind	
Vertical	8,88 tm
Horizontal	13,68 tm

Moment due to a 23.5m/s wind (1 Year storm)	
Vertical	4902,00 tm
Horizontal	7556,02 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	4902,00
2,5	0,044	5221,95
5	0,087	5520,81
7,5	0,131	5796,31
10	0,175	6046,35
12,5	0,218	6269,02
15	0,262	6462,64
17,5	0,305	6625,72
20	0,349	6757,04
22,5	0,393	6855,58
25	0,436	6920,60
27,5	0,480	6951,60
30	0,524	6948,36
32,5	0,567	6910,88
35	0,611	6839,46
37,5	0,654	6734,65
40	0,698	6597,23

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PRUDENTE GUSTO
DIRETOR
DIVISÃO DE SEGURANÇA PATRIMONIAL

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,25 tonnes	38,76
Horizontal	0,40 tonnes	34,99

Moment due to a 1m/s wind	
Vertical	9,73 tm
Horizontal	13,98 tm

Moment due to a 23.5m/s wind (1 Year storm)	
Vertical	5373,40 tm
Horizontal	7719,89 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	5373,40
2,5	0,044	5699,60
5	0,087	6002,86
7,5	0,131	6280,88
10	0,175	6531,55
12,5	0,218	6752,96
15	0,262	6943,43
17,5	0,305	7101,49
20	0,349	7225,96
22,5	0,393	7315,88
25	0,436	7370,57
27,5	0,480	7389,61
30	0,524	7372,86
32,5	0,567	7320,45
35	0,611	7232,77
37,5	0,654	7110,49
40	0,698	6954,55

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DIVISÃO JUDICIÁRIA
2312
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	18 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,24 tonnes	37,72
Horizontal	0,39 tonnes	35,31

Moment due to a 1m/s wind	
Vertical	8,88 tm
Horizontal	13,68 tm

Moment due to a 23.5m/s wind (1 Year storm)	
Vertical	4902,00 tm
Horizontal	7556,02 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	4902,00
2,5	0,044	5221,95
5	0,087	5520,81
7,5	0,131	5796,31
10	0,175	6046,35
12,5	0,218	6269,02
15	0,262	6462,64
17,5	0,305	6625,72
20	0,349	6757,04
22,5	0,393	6855,58
25	0,436	6920,60
27,5	0,480	6951,60
30	0,524	6948,36
32,5	0,567	6910,88
35	0,611	6839,46
37,5	0,654	6734,65
40	0,698	6597,23

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO [illegible]
DIVISÃO DE SERVIÇOS AUXILIARES

DIVISÃO JUDICIÁRIA
2653
TRIBUNAL

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Horizontal Wind area Calculation**

All Data taken from F & G report L1050

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	11 m

Force due to 51.4m\s wind
= 1114347 kg
= 1114,347 t

Force due to a 1m/s wind
= 0,421788 t

Height of centre of area
= 36,608 m

Wind lever (20.6 +(22.00-VCB))
= 42,258 m

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	11 m

Force due to 51.4m\s wind
= 1082545 kg
= 1082,545 t

Force due to a 1m/s wind
= 0,409751 t

Height of centre of area
= 35,68 m

Wind lever (20.6 +(22.00-VCB))
= 41,33 m

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DIVISÃO JUDICIÁRIA
2914
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	11 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,359 tonnes	33,88
Horizontal	0,422 tonnes	42,258

Moment due to a 1m/s wind	
Vertical	12,18 tm
Horizontal	17,82 tm

Moment due to a 35m/s wind	
Vertical	14917,50 tm
Horizontal	21834,30 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	14917,50
2,5	0,044	15840,61
5	0,087	16699,93
7,5	0,131	17488,92
10	0,175	18201,57
12,5	0,218	18832,46
15	0,262	19376,79
17,5	0,305	19830,42
20	0,349	20189,89
22,5	0,393	20452,47
25	0,436	20616,16
27,5	0,480	20679,72
30	0,524	20642,65
32,5	0,567	20505,25
35	0,611	20268,56
37,5	0,654	19934,37
40	0,698	19505,24

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Intact WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	11 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,315 tonnes	33,54
Horizontal	0,410 tonnes	41,33

Moment due to a 1m/s wind	
Vertical	10,55 tm
Horizontal	16,93 tm

Moment due to a 35m/s wind	
Vertical	12929,47 tm
Horizontal	20745,37 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	12929,47
2,5	0,044	13808,91
5	0,087	14632,45
7,5	0,131	15393,84
10	0,175	16087,26
12,5	0,218	16707,46
15	0,262	17249,70
17,5	0,305	17709,86
20	0,349	18084,44
22,5	0,393	18370,59
25	0,436	18566,12
27,5	0,480	18669,56
30	0,524	18680,11
32,5	0,567	18597,69
35	0,611	18422,94
37,5	0,654	18157,18
40	0,698	17802,42

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA GUSTAVO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	0 degrees
Wind Direction	90 degrees
Draft	11 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,359 tonnes	33,876
Horizontal	0,422 tonnes	42,258

Moment due to a 1m/s wind	
Vertical	12,18 tm
Horizontal	17,82 tm

Moment due to a 25.7m/s wind	
Vertical	8043,15 tm
Horizontal	11772,52 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert}\,Cos^2\theta + Moment_{horiz}\,Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	8043,15
2,5	0,044	8540,87
5	0,087	9004,19
7,5	0,131	9429,60
10	0,175	9813,84
12,5	0,218	10154,00
15	0,262	10447,49
17,5	0,305	10692,08
20	0,349	10885,90
22,5	0,393	11027,47
25	0,436	11115,73
27,5	0,480	11150,00
30	0,524	11130,01
32,5	0,567	11055,93
35	0,611	10928,31
37,5	0,654	10748,13
40	0,698	10516,75

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

WS	**7/15/2146**
Proj	**P36 Roncador**
Client	**Petromec**
Date	**27/ago/97**
By	**SCE**
Chkd	

Title **Damaged WOTM Calculation**

Heel Axis	90 degrees
Wind Direction	0 degrees
Draft	11 m

Forces due to a 1m/s wind		Wind Lever (m)
Vertical	0,315 tonnes	33,539
Horizontal	0,410 tonnes	41,330

Moment due to a 1m/s wind	
Vertical	10,55 tm
Horizontal	16,93 tm

Moment due to a 25.7m/s wind	
Vertical	6971,25 tm
Horizontal	11185,40 tm

Horizontal and vertical moments combined using the following equation:

$$Moment_{\theta} = Moment_{vert} Cos^2\theta + Moment_{horiz} Sin\theta Cos\theta$$

Heel Angle (θ)		Moment
degrees	radians	
0	0,000	6971,25
2,5	0,044	7445,42
5	0,087	7889,46
7,5	0,131	8299,98
10	0,175	8673,86
12,5	0,218	9008,25
15	0,262	9300,62
17,5	0,305	9548,72
20	0,349	9750,69
22,5	0,393	9904,97
25	0,436	10010,40
27,5	0,480	10066,17
30	0,524	10071,86
32,5	0,567	10027,42
35	0,611	9933,20
37,5	0,654	9789,90
40	0,698	9598,63

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Maximum Operating Condition
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,40	0,80	5,42	0,007	0,055
Displacement	**56503,2**	**57,05**	**-0,02**	**22,11**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,03 m
MCTC	25,18 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

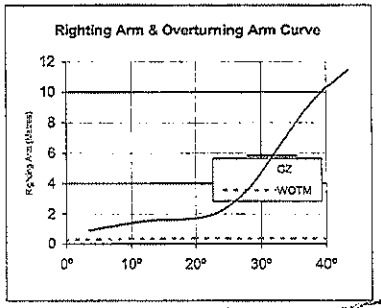
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,12 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,68 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m



Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	270,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	270,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,38	-25,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,38	25,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	13,2	78,87	4,96	38,10	0,000	0,000
Potable Water	0			402,7	82,36	0,19	25,57	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	1SP	100%	0,960	588,3	31,05	-23,91	4,66	0,000	0,000
FO Tank	1SS	100%	0,960	588,3	31,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,02	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2983,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-13,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,32	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,09	-3,53	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T60101	100%	0,900	0,3	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,90	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,6	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UO-122306	100%	0,900	15,0	89,87	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UO-122305	100%	0,900	15,0	89,88	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	6,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,8	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,8	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,9	54,39	-12,59	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			119,5	82,69	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd dmn p+k	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd dmn p+k	T05001B	0%	1,316	0,0	25,17	24,29	27,00	0,000	0,000
Fwd dmn p+k	T05001A	0%	1,316	0,0	25,10	-24,29	27,00	0,000	0,000
Fwd dmn p+k	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hellfuel Refuel	A98001	100%	1,000	7,0	34,55	-12,53	43,92	0,000	0,000
Hellfuel Disp	A98002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,86	26,76	43,04	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-5,30	52,01	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	84,07	-9,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	35,23	21,33	37,08	0,000	0,000
Tank Top Separ Tank	V-533605	50%	1,000	8,0	76,22	8,44	46,47	0,000	0,000
Non Structural Tanks	0			31,1	56,82	0,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	467,6	92,29	-28,51	47,27	0,002	0,009
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-16,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-10,71	10,81	0,000	0,000
Turbine Cooling Water	UO-122309	100%	1,000	5,0	89,07	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122305	100%	1,000	5,6	89,66	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	18,5	50,68	17,80	37,52	0,000	0,000
Chemical Inj'n Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	36,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	0,8	48,10	-3,22	63,78	0,000	0,000
Slop Plo Matrix Separator	V-66212	100%	0,000	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,6	62,85	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	30,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,05	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,850	7,6	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	0,4	50,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	58,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	25,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,960	43,9	31,81	23,02	40,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	79,26	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,26	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,26	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1867,0	79,85	-11,65	45,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		108,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	48,04	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,04	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,26	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	20,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,73	29,25
P-1-00 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-S13)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RO-2	Y		150,9	71,03	-30,29	6,00
Elecir. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,8	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-30,29	6,00
Connected Risers	0			5051,6	66,76	2,77	15,15

Crew & Stores @ SD	ID	%		Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%		19,0	84,68	-24,00	40,82
Production Warehouse	SD-02	20%		19,3	88,60	24,00	41,12
Warehouse	SD-03	20%		30,0	85,73	-15,62	41,12
Open Store	SD-04	0%		0,0	60,43	-0,23	41,02
Dry Store 1	SD-05	25%		14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%		11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%		12,4	42,47	10,03	41,02
Crew & Effects	0	50%		15,0	45,72	0,00	41,82
Crew & Stores @ SD	0			104,1	65,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	10,19
Chain Locker - Port Aft (Winch 1)	0P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	26,31	-31,12	10,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	6S	337	63,9	86,47	31,12	10,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	10,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,0	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	29,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	29,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,8	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store AR	TT-01	99%	8,0	53,51	9,85	37,68
Pump Store Fwd	TT-02	99%	8,0	49,20	9,85	37,68
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,68
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,68
Mech Workshop	TT-05	20%	19,5	85,87	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	92,90	31,44	37,68
Store	TT-09	5%	3,0	89,19	-5,33	37,68
Electrical Workshop	TT-10	50%	16,3	75,27	-9,10	37,78
Electrical Store	TT-11	35%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	9,2	75,37	4,65	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,80	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,02	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,64	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	86,89	8,51	43,87
Deck Locker	MD-02	35%	0,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-33,80	48,00
Tote Tank Laydown	LD-01	40%	38,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	20,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	20,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	90,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	108,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		296,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Petrob. 36 - Roncador Field Development
Operatons Manual - Volume 7
Loading Condition: Post Mooring Installation
Draft = 22.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	6,10	0,000	0,000
SW Ballast 3S	728,7	1,025	99%	739	16,71	30,88	6,10	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	99%	260	27,71	-22,82	2,93	0,000	0,004
SW Ballast 5S	256,6	1,025	99%	260	27,71	22,82	2,93	0,000	0,004
SW Ballast 6P	523,9	1,025	99%	532	28,19	-31,74	5,21	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	99%	253	85,17	-22,72	2,98	0,000	0,000
SW Ballast 16S	249,7	1,025	99%	253	85,17	22,72	2,98	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	81%	800	103,87	-24,48	5,58	0,008	0,073
SW Ballast 21S	963,7	1,025	99%	978	103,87	24,48	6,63	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	69%	691	28,00	-26,33	12,27	0,010	0,010
SW Ballast 24S	980,8	1,025	64%	647	28,00	26,33	12,00	0,010	0,010
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	18%	183	84,77	-26,33	9,85	0,030	0,034
SW Ballast 26S	980,8	1,025	25%	255	84,77	26,33	10,13	0,030	0,034
SW Ballast Total				21345	50,94	0,23	5,67	0,09	0,17

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,000	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	21345,2	50,94	0,23	5,67	0,088	0,167
Displacement	**56503,2**	**57,05**	**-0,02**	**20,03**	**0,090**	**0,168**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	48,54 m
MCTC	35,06 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

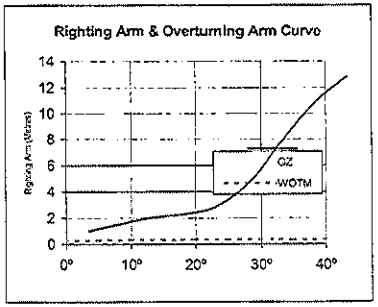
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	20,12 m	20,20 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	6,68 m	7,00 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	2,84 m



DOCUMENTO ORIGINAL
DIVISÃO TÉCNICA

Petrobras 36 - Roncador [illegible] Development
Operatons Manual - Volume 7
Loading Condition: Post Mooring Installation

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	199,8	84,58	-26,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	199,8	84,58	26,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,86	38,10	0,000	0,000
Potable Water	0			407,7	84,36	0,10	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,78	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,66	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	30,20	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,16	47,01	0,000	0,000
Diesel Oil	0			374,0	70,13	-3,56	39,17	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,53	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,85	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,5	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	31,04	30,07	40,90	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	46,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	33,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	33,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'D'	UO-122306	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,91	-1,82	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,80	0,000	0,000
Deaerator Tower (Stbd)	C-52001	0%	1,000	0,0	85,08	23,73	27,80	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	70,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	70,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	68,77	-6,08	25,87	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	29,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	29,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Reliet	A58001	100%	1,000	7,9	34,55	-12,53	43,02	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExcensionTank	T55102	100%	1,000	0,5	64,07	-6,20	52,91	0,000	0,000
Oily Water Separators	A-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TG-122301	0%	1,080	55,23	21,53	37,08	0,000	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-0,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,29	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,29	-16,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-26,01	47,49	0,000	0,000
Production Caisson	TO-533901	0%	0,000	0,0	64,74	-16,71	10,81	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-662503	0%	0,000	0,0	68,48	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-662501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-662502	0%	0,900	0,0	54,40	16,66	37,30	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-662501-01	0%	0,900	0,0	50,60	17,00	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,58	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Plo Matrix Separator	V-66212	0%	0,900	0,0	69,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	0%	1,080	0,0	57,13	16,93	45,38	0,000	0,000
TCG Contactor Towers	UO-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,075	0,0	62,83	30,90	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,06	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	97,93	23,08	38,05	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	0%	0,820	0,0	63,97	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	58,04	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	32,06	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,36	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	0%	1,025	0,0	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	48,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	99,60	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	26,81	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,963	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'D'	UO-122307	0%	0,690	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,650	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	58,38	0,00	43,50	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-10,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	0,80
I-1-01	E1,E2	N	0,0	41,26	18,57	6,32
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-05	E15,E16	N	0,0	55,20	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,84	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,04	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
I-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-05 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,00	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,67	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,67	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJG-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,29	6,00
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	94,98	-24,99	40,82
Production Warehouse	SD-02	10%	5,2	88,60	24,05	41,12
Warehouse	SD-03	10%	13,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,63	-0,64	41,00

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,02	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	337	63,9	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,0	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	20,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	108,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	109,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	108,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,7	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,0	63,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	62,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,98
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,67
Dock Locker	MD-02	5%	1,4	48,89	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,67	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,02	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,8	99,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	39,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		268,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DIVISÃO JURÍDICA

Petrol[illegible] 36 - Roncador Field Development
Operatons Manual - Volume 7
Loading Condition: Fairlead Inspection Draft (18.0m)
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	76%	680	6,78	30,71	4,77	0,006	0,017
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	62%	351	26,94	-36,18	3,79	0,001	0,012
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	1%	7	51,06	-30,81	0,05	0,000	0,000
SW Ballast 11S	644,7	1,025	1%	7	51,06	30,81	0,05	0,000	0,000
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	5%	30	61,72	30,81	0,24	0,004	0,012
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				4713	15,01	1,88	5,33	0,01	0,04

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,005	0,014
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	4713,4	15,01	1,88	5,33	0,012	0,041
Displacement	**50389,5**	**57,12**	**-0,02**	**24,12**	**0,017**	**0,056**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	22,43 m
MCTC	17,52 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

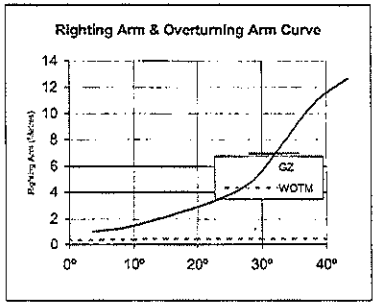
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	24,14 m	24,18 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	3,46 m	3,92 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	1,05 m



Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	279,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	270,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,38	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,38	-20,99	20,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,38	20,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	-4,06	36,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,950	580,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,950	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,950	589,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,950	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,950	10,4	78,04	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,950	15,1	78,07	22,86	35,81	0,000	0,000
Fuel Oil	0			2463,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,9	97,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	16,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,7	75,08	-3,65	39,04	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	0,8	80,72	-24,65	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	0,8	80,72	24,65	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,05	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	01,64	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122305	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,26	0,000	0,000
Lub Oils	0			68,2	84,90	8,10	40,56	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,9	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,0	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,80	0,000	0,000
Deaerator Tower (Stbd)	C-52001	100%	1,000	37,9	85,09	23,73	27,80	0,000	0,000
Auxiliary Generator OD	GE-514001	100%	0,870	1,0	54,39	-12,59	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,75	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hellfuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Hellfuel Disp	A58002	100%	1,000	0,1	25,91	-19,29	45,10	0,000	0,000
Incinerator OD Day Tank	T69305	100%	0,870	0,2	21,66	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T65101	100%	1,000	2,9	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T65102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-65201/V-65202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TO-123301	100%	1,080	12,1	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	100%	1,000	8,0	78,22	9,44	48,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	6,26	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	407,8	92,29	-26,51	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	407,4	92,28	-18,53	47,34	0,002	0,008
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122305	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UO-682503	100%	0,900	38,5	58,48	13,14	44,06	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	10,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,5	50,68	17,80	37,32	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	10,0	48,12	2,33	53,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-2,22	53,78	0,000	0,000
Skim Pile Matrix Separator	V-06212	100%	0,000	10,6	59,61	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,93	45,36	0,000	0,000
TCG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,50	45,00	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,67	-10,30	44,21	0,000	0,000
Booster Comp Process Pkg	A20003	100%	1,000	5,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,026	8,2	32,96	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	58,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,026	40,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,980	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,00	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-513501-01	100%	0,965	43,3	31,81	23,90	48,66	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,050	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,050	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,050	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1867,0	78,85	-11,60	43,74	0,005	0,014

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	8,50
I-1-01	E1,E2	Y		108,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	49,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,25	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,04	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		190,8	71,03	-39,29	0,00
Elect. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,8	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,8	32,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-39,29	0,00
Connected Risers	0			3051,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%		Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%		10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%		10,3	88,00	24,00	41,12
Warehouse	SD-03	20%		30,0	85,73	-15,62	41,12
Open Store	SD-04	0%		0,0	80,43	-0,23	41,02
Dry Store 1	SD-05	25%		14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%		11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%		12,4	42,47	15,03	41,02
Crew & Effects	0	50%		15,0	45,72	0,00	41,82
Crew & Stores @ SD	0			104,1	63,11	0,26	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,00
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,05	-30,50	4,00
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	80,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,00
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,00
Chain Locker - Port Fwd (Winch 6)	8P	337	63,9	25,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,05	30,50	4,00
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,00
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	80,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,00
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,00
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	25,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	50,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,6	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	108,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	108,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	108,3	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,04	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,91	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,25	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	50%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Control Caisson Laydown Area	TT-13	0%	0,6	61,89	2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	8,1	73,19	23,36	37,58
Crew & Stores @ TT	0		160,3	78,84	4,33	37,85

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	65,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,8	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,60	43,00
Turbine B Laydown	LD-08	0%	0,0	71,03	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	38,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,20	43,00
Helicoptor & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO CONTROLADO

NOBLE DENTON

Loading Condition: Transition from operating Draft (22.0m) to Fairlead Inspection Draft (18.0m)
Draft = 20.0m

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	60%	492	13,73	36,66	3,82	0,002	0,028
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	98%	557	26,94	-36,18	5,99	0,001	0,011
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	39%	309	98,59	36,27	2,49	0,002	0,023
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				7760	31,27	1,13	5,06	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	7759,9	31,27	1,13	5,06	0,005	0,061
Displacement	**53436,1**	**57,08**	**-0,02**	**23,01**	**0,011**	**0,075**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	20,0 m
LCB (from FP)	57,08 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,27 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	28,03 m
MCTC	21,38 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

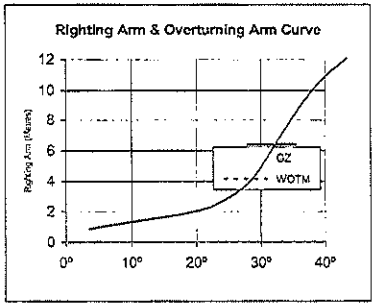
Draft Aft Perpendicular (INPUT)	20,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	20,000 m
Mean Draft @ Amidships	20,000 m
Mean Draft Forward	20,000 m

Statical Stability

Corrected VCG =	23,02 m	23,09 m
KMT / KML =	27,10 m	27,60 m
GMT / GML =	4,08 m	4,51 m

Stability Margin

Allowable VCG =	26,80 m
Stability Margin =	3,71 m



Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-29,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	29,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	246,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	246,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,36	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-24,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,5	84,58	24,99	25,00	0,000	0,000
Pot Water Day Tk	D	100%	1,000	15,2	70,67	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,64	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2993,0	56,76	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,0	97,01	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,0	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	79,08	-3,55	38,64	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,8	80,70	-24,65	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,8	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	76,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65103	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,94	30,07	40,90	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,89	-22,17	45,00	0,000	0,000
Wt Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
Wt Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UG-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UG-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UG-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,00	6,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-28,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	28,31	0,38	0,000	0,000
W.L.ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-61001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Stbd)	C-62001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-614001	100%	0,870	1,0	84,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	70,72	-28,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	70,72	28,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,00	-26,70	27,00	0,000	0,000
Hellfuel Refuel	[illegible]	100%	1,000	7,9	34,55	-12,53	43,02	0,000	0,000
Hellfuel Disp	[illegible]	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	[illegible]	100%	0,870	0,2	21,06	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	[illegible]	100%	1,000	2,0	63,02	-4,30	52,91	0,000	0,000
FW Cooling Exansion Tank	[illegible]	100%	1,000	0,5	64,97	-4,20	52,91	0,000	0,000
Oily Water Separators	V-6020/V-6202	100%	0,900	1,4	60,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	T-[illegible]001	50%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-[illegible]605	50%	1,000	0,0	70,22	0,44	40,47	0,000	0,000
Non Structural Tanks	0			32,1	56,87	8,26	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UG-122301	100%	0,850	467,4	92,29	-28,51	47,27	0,002	0,006
Oil Separation - Train B	UG-122302	100%	0,850	467,4	92,28	28,53	47,34	0,002	0,007
Oil Separation - Heating	UG-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UG-122305	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UG-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UG-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UG-682603	100%	0,900	36,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UG-682501-02	100%	0,900	26,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UG-682502	100%	0,900	10,2	54,46	18,96	37,36	0,000	0,000
Oil Chemical injection (Skid 1)	UG-682501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pits Matrix Separator	V-69212	100%	0,900	10,6	59,51	-19,30	43,02	0,000	0,000
Glycol Regeneration Package	UG-123302	100%	1,080	13,3	57,13	16,03	45,36	0,000	0,000
TEG Contactor Towers	UG-123301	100%	1,080	8,3	57,44	12,87	46,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	82,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UG-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP HG Drum Package + Pumps	UG-541202	100%	0,820	7,0	63,67	-16,56	44,21	0,000	0,000
Booster Comp Process Pkg	A36003	100%	1,000	6,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UG-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	36,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UG-125101	100%	1,025	49,2	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		100%	0,850	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,00	-21,60	44,70	0,000	0,000
Cooling Medium Package	UG-512401-01	100%	1,000	26,7	29,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UG-512501-01	100%	0,935	43,3	31,91	23,00	48,56	0,000	0,000
Process Gas Module 'C'	UG-122309	100%	0,850	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UG-122307	100%	0,850	8,0	79,28	10,85	48,86	0,000	0,000
Process Gas Module 'A'	UG-122305	100%	0,850	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,65	-11,65	43,74	0,004	0,015

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-16,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	8,50
I-1-01	E1,E2	Y		108,6	41,20	18,57	6,22
P-1-09	E3,E4,E5	Y		163,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	49,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	53,20	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,28	18,57	6,22
P-1-07	E19,E20,E21	Y		163,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		163,0	62,04	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-10	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-03 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMG12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (W) F1/I1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,0	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-36,29	6,00
Electr. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-36,29	6,00
Connected Risers	0			3051,6	68,20	2,77	15,13

Crew & Stores @ SD	ID	%		Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%		10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%		10,3	88,00	24,00	41,12
Warehouse	SD-03	20%		30,0	85,73	-15,02	41,12
Open Store	SD-04	0%		0,0	60,43	-0,23	41,02
Dry Store 1	SD-05	25%		14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%		11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%		12,4	42,47	15,03	41,02
Crew & Effects	0	50%		15,0	45,72	0,00	41,62
Crew & Stores @ SD	0			104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	91,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	10,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,46	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	29,31	-31,12	10,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,46	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	91,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	10,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,46	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	29,31	31,12	10,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,46	13,72
Chain Onboard	0	3372	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 5)	P1	140	107,6	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 8)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	0,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,87	-23,86	37,58
Production Warehouse	TT-06	20%	30,9	86,61	24,15	37,58
Production Warehouse	TT-07	80%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	62,90	31,44	37,88
Store	TT-09	5%	3,0	09,19	-0,33	37,88
Electrical Workshop	TT-10	50%	10,3	75,27	-8,18	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	79,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	9,6	61,89	2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,33	37,80

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	85,69	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,69	8,51	43,87
Marine Equipment Storage	MD-03	80%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,8	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,90	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	108,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,20	43,00
Helicopter & Laydown Areas	0		268,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

CONTROLLED COPY

Petrobras 36 - Roncador Field Development
Operatons Manual - Volume 7
Loading Condition: Transition from operating Draft (22.0m) to Fairlead Inspection Draft (18.0m)
Draft = 20.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	60%	492	13,73	36,66	3,82	0,002	0,028
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	98%	557	26,94	-36,18	5,99	0,001	0,011
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	39%	309	98,59	36,27	2,49	0,002	0,023
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				7760	31,27	1,13	5,06	0,01	0,06

	BY	Sign	Date
Prepared	J		
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	7759,9	31,27	1,13	5,06	0,005	0,061
Displacement	**53436,1**	**57,08**	**-0,02**	**23,01**	**0,011**	**0,075**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	20,0 m
LCB (from FP)	57,08 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,27 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	28,03 m
MCTC	21,38 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

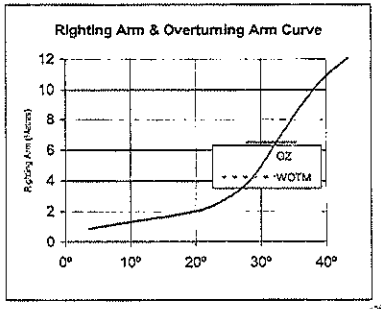
Draft Aft Perpendicular (INPUT)	20,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	20,000 m
Mean Draft @ Amidships	20,000 m
Mean Draft Forward	20,000 m

Statical Stability

Corrected VCG =	23,02 m	23,09 m
KMT / KML =	27,10 m	27,60 m
GMT / GML =	4,08 m	4,51 m

Stability Margin

Allowable VCG =	26,80 m
Stability Margin =	3,71 m



Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1048,3	40,38	0,00	4,38	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,60	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,60	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	580,5	61,72	-23,88	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,04	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2393,0	56,76	0,64	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	76,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,9	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	116,8	74,69	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	13,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			391,2	76,08	-0,55	39,04	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,64	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,64	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,5	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,5	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T05101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T05105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T05106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T05107	100%	0,900	0,3	23,33	26,19	40,87	0,000	0,000
Mooring Winch LO Storage	T05108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T05109	100%	0,900	0,5	48,66	-22,17	45,00	0,000	0,000
WI Room LO Storage	T05110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T05111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-9,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	4,16	40,90	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,8	78,49	-26,31	0,58	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,8	78,49	26,31	0,58	0,000	0,000
W.U. ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.U. ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,80	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,80	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,56	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			117,5	82,99	-0,11	27,75	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,0	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	29,91	-19,28	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,66	28,70	43,84	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling Expansion Tank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-60201/V-60202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	30%	1,000	8,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	6,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-28,51	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	28,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	79,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	3,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	9,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-9,45	49,25	0,000	0,000
Gas/Cond, Chemical Injection Packag	UQ-582503	100%	0,900	38,5	38,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-582501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-582502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-582501-01	100%	0,900	16,5	50,68	17,80	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,50	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	45,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,03	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,87	48,98	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,68	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,53	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	8,4	56,04	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,00	44,78	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	20,7	29,81	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	23,90	49,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,05	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,20	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		166,0	41,28	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		109,6	55,26	18,57	6,22
I-1-04	E17,E18	Y		109,6	57,20	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		109,6	82,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,0	82,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,0	82,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	82,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	82,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	82,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMBC"	S15	Y		14,4	82,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 8"	S19	Y		93,8	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 8"	S21	Y		93,8	82,44	-5,00	29,25
I-1-02	S22,S23	Y		109,6	82,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		109,6	82,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y		109,9	82,44	-11,25	29,25
SPARE (RJG-513)	S29,S30,S31	Y		166,0	82,44	-14,25	29,25
Optical Cable	S32	Y		11,6	82,44	-16,00	29,25
SPARE	W1	D		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-36,29	8,00
Electr. Cable	W3	Y		25,6	62,17	-18,57	8,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	8,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,0	53,50	-18,57	8,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,20	-18,57	8,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	46,77	-36,29	8,00
Connected Risers	0			5051,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%		Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%		10,0	84,58	-24,00	40,92
Production Warehouse	SD-02	20%		10,3	88,60	24,00	41,12
Warehouse	SD-03	20%		30,0	85,73	-15,62	41,12
Open Store	SD-04	0%		0,0	69,43	-3,23	41,02
Dry Store 1	SD-05	25%		14,9	49,21	8,48	40,52
Dry Store 2	SD-06	25%		11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%		12,4	42,47	15,03	41,02
Crew & Effects	0	50%		15,0	45,72	0,00	41,82
Crew & Stores @ SD	0			104,1	63,11	0,78	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	93,9	87,22	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	93,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	93,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 7)	9P	337	93,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	93,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	93,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	93,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	93,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	93,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	93,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	93,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	93,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	93,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	93,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	93,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	93,9	21,73	33,48	13,72
Chain Onboard	0	5302	1021,9	56,59	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	35,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	108,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	108,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	108,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,64	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	40,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,10	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,66	37,58
Production Warehouse	TT-06	80%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	10,3	75,27	-8,10	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	8,2	75,27	4,83	37,58
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,5	78,94	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	65,89	8,51	43,67
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,67
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,67
Crew & Stores @ MD	0		42,9	51,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-30,80	46,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,92	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	60%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	29,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,6	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	39,68
Multipurpose Court	LD-11	60%	127,2	30,37	1,20	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Transition from Transit Draft (11.0m) to Mooring Installation Draft (18.0m)
Draft = 14.5m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	99%	532	28,19	-31,74	5,21	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	71%	379	84,58	-31,74	3,28	0,003	0,021
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	58%	456	98,66	-36,37	3,63	0,002	0,027
SW Ballast 20S	768,2	1,025	69%	547	98,59	36,27	4,33	0,002	0,027
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				11435	46,39	0,71	5,14	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	11434,7	46,39	0,71	5,14	0,008	0,075
Displacement	**45208,2**	**57,20**	**-0,02**	**23,04**	**0,011**	**0,076**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	14,5 m
LCB (from FP)	57,20 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,63 m
LCF (from FP)	56,42 m
TCF (+ve stbd)	-0,04 m
MCHC	22,99 m
MCTC	19,19 m
TPC	14,02 T/cm

Draft, Heel & Trim
(Input from Stability Software)

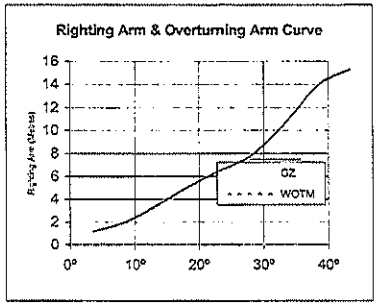
Draft Aft Perpendicular (INPUT)	14,50 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	14,500 m
Mean Draft @ Amidships	14,500 m
Mean Draft Forward	14,500 m

Statical Stability

Corrected VCG =	23,05 m	23,11 m
KMT / KML =	27,00 m	27,90 m
GMT / GML =	3,95 m	4,79 m

Stability Margin

Allowable VCG =	26,70 m
Stability Margin =	3,59 m



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Loading Condition: Transition from Transit Draft (11.0m) to Mooring Installation Draft (18.0m)

Summary Breakdown of Deadweight Loads

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Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6S	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	49,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	49,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,35	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,35	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,86	38,10	0,000	0,000
Potable Water	0			402,7	84,39	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	87,81	-15,02	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	16,16	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,57	-13,00	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,6	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,38	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,90	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,65	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	0%	0,900	0,0	60,67	24,55	40,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	0%	0,900	0,0	88,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	69,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,82	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	76,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	76,49	26,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,80	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,80	0,000	0,000
Auxiliary Generator DO	GE-S14001	100%	0,870	1,0	64,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	69,77	-6,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,50	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	20,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	03,02	-5,36	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-00201/V-00202	100%	0,000	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TC-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-0,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,000	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	88,67	24,35	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	88,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	80,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-682503	0%	0,900	0,0	58,46	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,000	0,0	54,46	18,66	37,38	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	58,88	17,60	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,000	0,0	61,56	17,88	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,000	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,035	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-00212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	18,93	45,26	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,060	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,06	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,80	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,84	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,08	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	36,38	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		0%	0,850	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	99,90	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	28,61	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,935	0,0	31,61	23,90	48,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,850	0,0	79,26	31,85	49,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,850	0,0	79,26	16,85	49,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,850	0,0	79,26	2,00	49,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-16,27	6,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	6,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	6,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,20	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	0,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,67	29,25
FUTURE (W/I F1/I1)	S24,S25	N	0,0	92,44	-8,67	29,25
SPARE (I1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-S13)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,20	6,00
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,09	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,82
Production Warehouse	SD-02	10%	5,2	86,00	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-5,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,92
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,92
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		66,1	61,63	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,46	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,46	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,46	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,46	13,72
Chain Onboard	0	7200	1364,8	58,39	0,00	0,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,00	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	65,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,58
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,58
Mech Workshop	TT-05	10%	10,0	85,97	-23,88	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	86,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,10	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,27	4,03	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,87	22,82	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,76

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,89	49,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,53	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,25	43,00
Compression A Laydown	LD-04	50%	29,0	96,42	0,43	43,00
Compression B Laydown	LD-05	50%	26,3	85,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,64	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

ESTA FOLHA FAZ PARTE DO DOCUMENTO ORIGINAL
DIVISÃO JURÍDICA

Petrobra) - Roncador Field Development
Operatons Manual - Volume 7
Loading Condition: Transiition from Transit Draft (11.0m) to Mooring Installation Draft (18.0m)
Draft = 12.5m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	32%	266	13,73	-36,66	2,14	0,003	0,033
SW Ballast 4S	798,3	1,025	90%	736	13,73	36,66	5,60	0,003	0,035
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	33%	261	98,66	-36,37	2,12	0,003	0,027
SW Ballast 20S	768,2	1,025	2%	13	98,59	36,27	0,13	0,001	0,013
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				8135	42,33	1,01	5,08	0,01	0,11

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	8134,6	42,33	1,01	5,08	0,009	0,108
Displacement	**41908,1**	**57,27**	**-0,02**	**24,43**	**0,012**	**0,109**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	12,5 m
LCB (from FP)	57,27 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,09 m
LCF (from FP)	56,41 m
TCF (+ve stbd)	-0,03 m
MCHC	23,49 m
MCTC	36,26 m
TPC	18,73 T/cm

Draft, Heel & Trim
(Input from Stability Software)

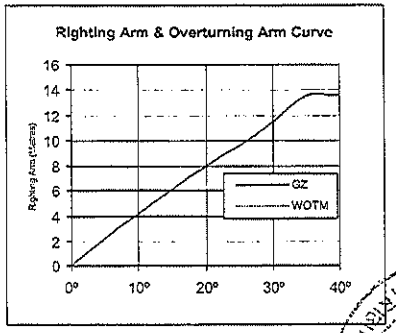
Draft Aft Perpendicular (INPUT)	12,50 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	12,500 m
Mean Draft @ Amidships	12,500 m
Mean Draft Forward	12,500 m

Statical Stability

Corrected VCG =	24,44 m	24,54 m
KMT / KML =	28,80 m	34,30 m
GMT / GML =	4,36 m	9,76 m

Stability Margin

Allowable VCG =	28,50 m
Stability Margin =	3,96 m



D:\[PERSONAL.XLS]Sheet1

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO ORIGINAL

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,80	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,80	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,80	35,43	0,001	0,000
Fuel Oil	0			15,8	78,01	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,91	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	74,80	-17,44	39,37	0,001	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	79,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	01,94	30,07	40,00	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122308	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UQ-122305	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,81	-1,82	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-28,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	28,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,90	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-0,08	75,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-10,20	45,10	0,000	0,000
Incinerator DO Day Tank	T55005	100%	0,870	0,2	21,86	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,61	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,61	0,000	0,000
Oily Water Separators	V-60201/V-60202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Clycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,68	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,31	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-18,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-682903	0%	0,900	0,0	69,48	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,40	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	60,68	17,80	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	0%	0,900	0,0	61,50	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	53,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,03	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,86	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,03	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,920	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,850	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	25,81	17,04	49,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	45,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N		0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N		0,0	24,34	14,75	8,80
FUTURE	N10,N11	N		0,0	24,34	17,37	0,50
I-1-01	E1,E2	N		0,0	41,26	18,57	6,32
P-1-09	E3,E4,E5	N		0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N		0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N		0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N		0,0	52,64	18,57	6,32
I-1-03	E15,E16	N		0,0	55,25	18,57	6,22
I-1-04	E17,E18	N		0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N		0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N		0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N		0,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	N		0,0	68,04	18,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,64	18,57	6,32
I-1-05	S1,S2	N		0,0	82,44	15,13	29,25
P-1-05	S3,S4,S5	N		0,0	82,44	12,75	29,25
P-1-11	S6,S7,S8	N		0,0	82,44	9,75	29,25
P-1-17	S9,S10,S11	N		0,0	82,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N		0,0	82,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N		0,0	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N		0,0	82,44	2,50	29,25
in). Quim. (M/Fld) Riser UMB6"	S15	N		0,0	82,44	1,50	29,25
Service Manifold Riser 4"	S16	N		0,0	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N		0,0	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	N		0,0	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N		0,0	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N		0,0	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N		0,0	82,44	-5,00	29,25
I-1-02	S22,S23	N		0,0	82,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N		0,0	82,44	-6,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N		0,0	82,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N		0,0	82,44	-14,25	29,25
Optical Cable	S32	N		0,0	82,44	-16,00	29,25
SPARE	W1	N		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N		0,0	71,83	-30,29	6,00
Electr. Cable	W3	N		0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N		0,0	61,17	-18,57	0,18
OIL C - EXPORT Riser 10" RO-03	W5	N		0,0	53,50	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N		0,0	52,29	-18,57	6,00
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N		0,0	48,77	-36,29	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,82
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-9,23	41,02
Dry Store 1	SD-05	10%	0,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,0	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,63	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,90	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,95	-30,90	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	6P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	9P	450	85,3	29,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Sbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Sbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Sbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Sbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Sbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Sbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Sbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Sbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,39	0,00	0,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,09	36,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	36,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	36,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	36,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	36,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	36,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	36,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	36,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-36,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-36,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-36,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-36,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-36,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-36,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-36,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-36,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	63,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	91,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-29,86	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,58
Electrical Workshop	TT-10	10%	3,3	75,27	-9,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,69
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	5,1	73,19	23,36	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,76

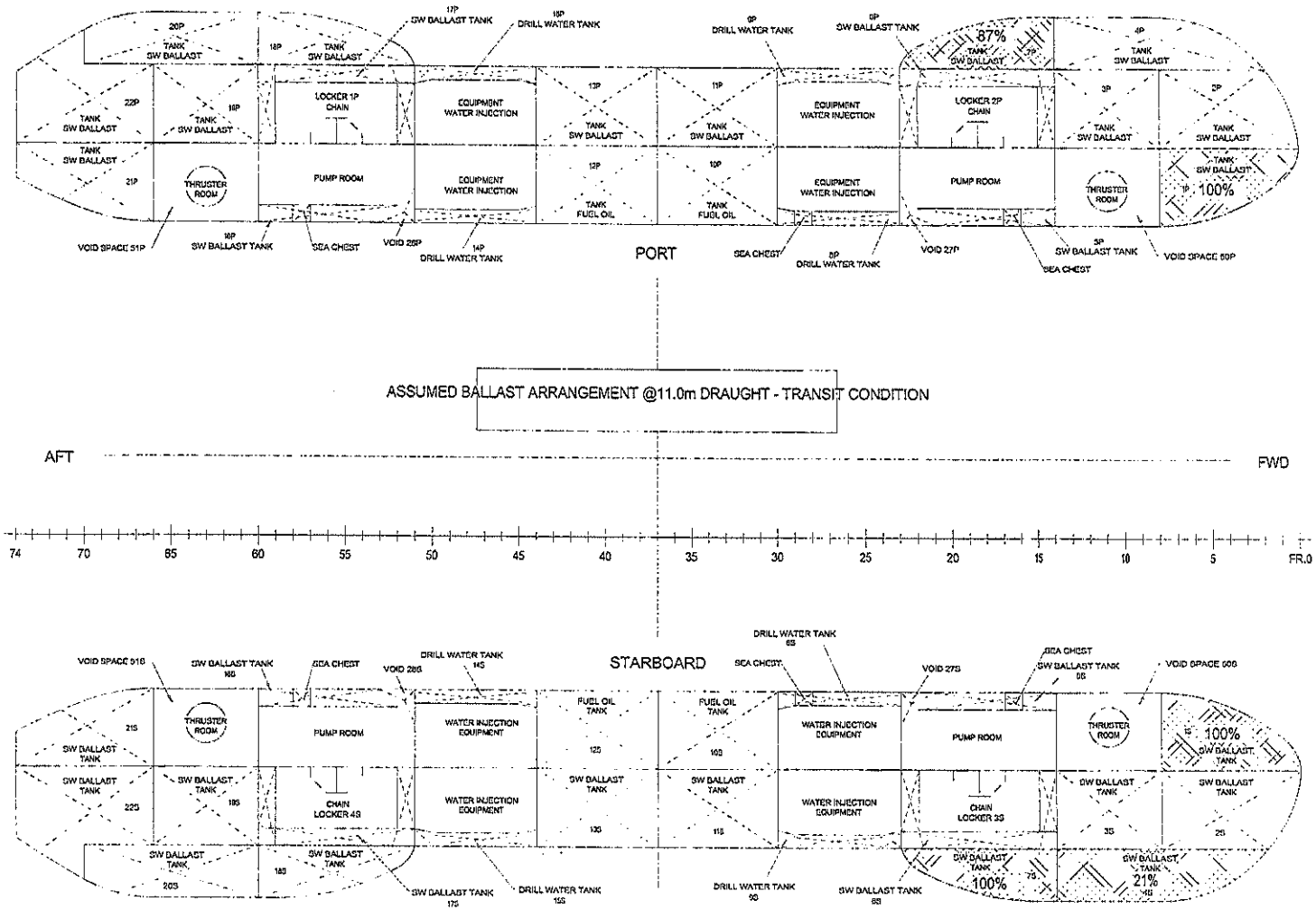
Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,80	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,53	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	99,44	13,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,50	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,45	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,03	-19,00	30,50
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		268,7	52,07	5,21	43,00

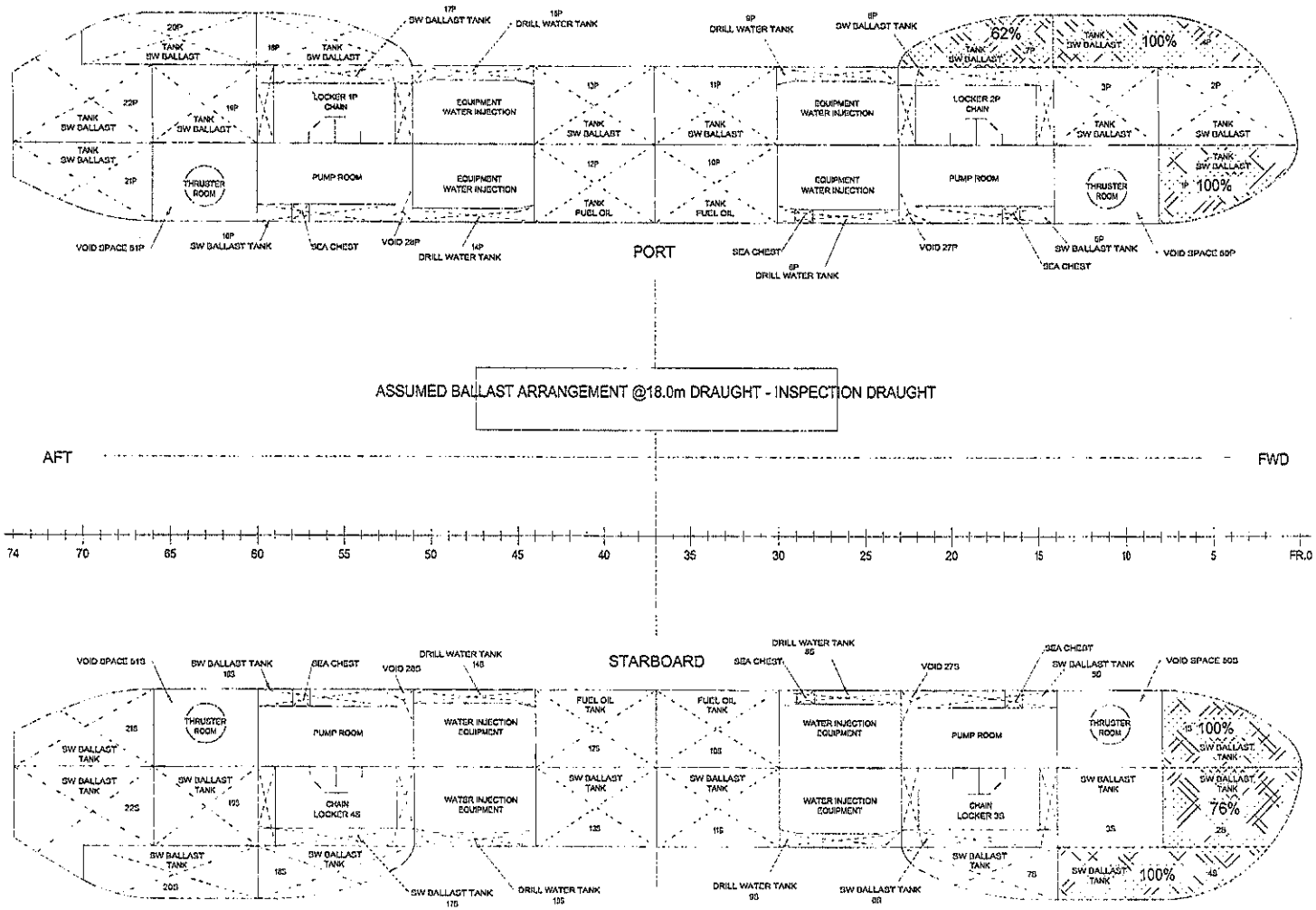
Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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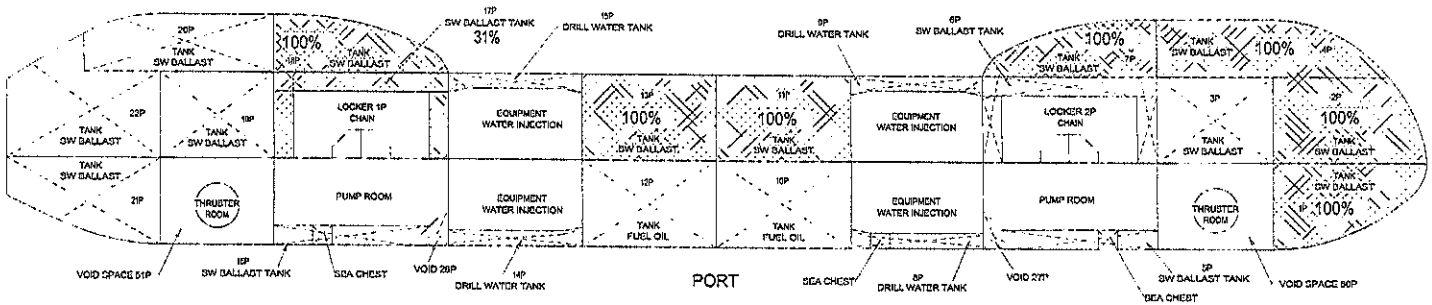
ASSUMED BALLAST ARRANGEMENT @18.0m DRAUGHT - INSPECTION DRAUGHT

PLAN ON LOWER HULL & COLUMNS
EL. 2570

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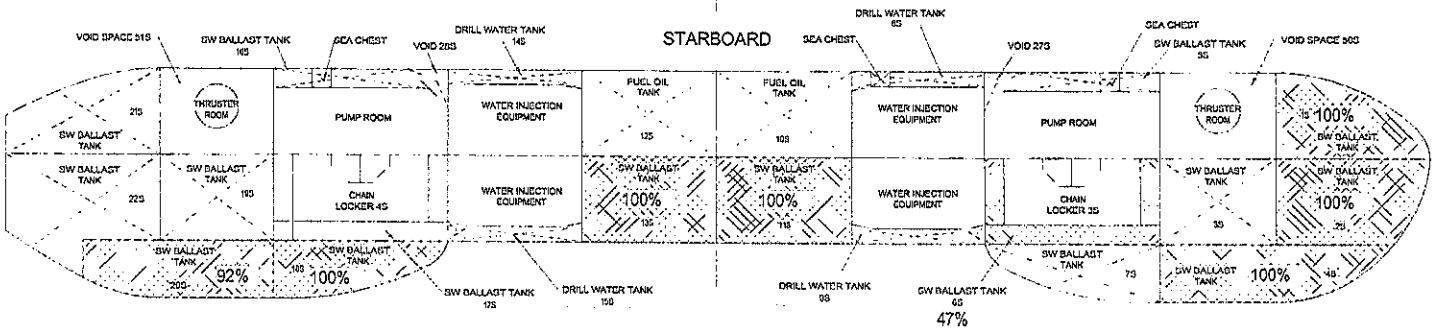
TRIBUNAL MARÍTIMO



ASSUMED BALLAST ARRANGEMENT @22.0m DRAUGHT - OPERATING/SURVIVAL CONDITION

AFT FWD

74 70 65 60 55 50 45 40 35 30 25 20 15 10 5 FR.0



PLAN ON LOWER HULL & COLUMNS
EL. 2570

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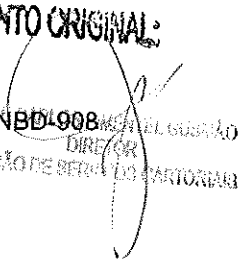
CÓPIA FIEL DO DOCUMENTO ORIGINAL



Load Summary Table
Crew &Stores

Compartment		Max Wt	%	Weight	LCG	TCG	VCG
Crew & Effects		30	100%	30	45,72	0,00	41,82
TT Mec Stores		20	100%	20	84,55	-30,45	37,88
TT Machine Shop		20	100%	20	86,10	-24,00	37,58
TT Prod whse		60	100%	60	88,55	23,60	37,58
TT Stores		20	100%	20	84,55	31,75	37,88
TT Elec. str		15	100%	15	75,40	-5,00	37,78
TT BOP cont.		0	0%	0	71,60	7,70	37,68
TT Cellar Deck	A	20	100%	20	64,00	0,00	37,58
TT Cellar Deck	F	20	100%	20	48,70	0,00	37,58
TT Pump Store	A	10	100%	10	64,70	9,10	37,88
TT Pump Store	F	10	100%	10	47,50	9,10	37,88
TT Sack and Drum		0	0%	0	42,37	10,37	37,58
2 Dk Drill Whse		35	100%	35	85,30	-15,90	41,12
2 Dk Prod Whse		35	30%	10,5	85,44	19,00	41,12
Dk Open Store		0	0%	0	70,10	0,00	41,02
Dry/chill/Freezer		40	100%	40	39,93	13,02	40,69
2 Dk Weld Shop		10	100%	10	85,09	-24,50	40,62
MD Drilling Store		0	0%	0	51,39	15,00	43,67
MD Paint Locker		5	100%	5	64,19	7,20	43,87
MD Deck Locker		10	100%	10	48,59	7,20	43,47
		360		**335,5**	**69,85**	**3,27**	**39,23**

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Compartment		Max Wt	%	Weight	LCG	TCG	VCG
Well Control Panel / Hyd Unit	UQ-121001	20,0	100%	20,0	65,9	7,1	35,5
Turbine / Compr Pkg Train 'C' (01)	UQ-122308	25,4	100%	25,4	89,7	24,5	49,2
Comp Process Pkg Train 'C' (02)	UQ-122309	8,0	100%	8,0	79,3	31,9	48,9
Turbine / Compr Pkg Train 'B' (03)	UQ-122306	25,4	100%	25,4	89,7	9,5	49,2
Comp Process Pkg Train 'B' (04)	UQ-122307	8,0	100%	8,0	79,3	16,9	48,9
Turbine / Compr Pkg Train 'A' (05)	UQ-122304	25,4	100%	25,4	89,7	-5,5	49,3
Comp Process Pkg Train 'A' (06)	UQ-122305	8,0	100%	8,0	79,3	2,1	48,9
Gas Comp. Starter Skid (26)	UQ-122310	0,3	100%	0,3	101,0	16,8	44,3
Oil Separation - Train A (07)	UQ-122301	468,3	100%	468,3	92,3	-28,5	47,3
Oil Separation - Train B (08)	UQ-122302	467,9	100%	467,9	92,3	-18,5	47,3
Oil Separation - Heating (09)	UQ-122303	78,8	100%	78,8	77,3	-20,0	47,5
Crude Oil Export Pumps (10)	UQ-122312-01	0,8	100%	0,8	96,9	-5,2	37,4
Crude Oil Exp Pump Header Skid (10A)	UQ-122312-02	5,6	100%	5,6	94,0	-5,5	38,7
Crude Oil Booster Pumps (11)	UQ-122311	2,6	100%	2,6	96,8	4,8	38,1
Glycol Regeneration Package (12)	UQ-123302	13,2	100%	13,2	57,1	16,9	45,4
TEG Contactor Towers (13)	UQ-123301	8,3	100%	8,3	57,4	12,9	48,4
Glycol Sump Tank	TQ-123301	4,0	100%	4,0	55,2	21,5	37,1
Safety Gas KO Drum Package (14)	V-122301	14,5	100%	14,5	62,9	30,5	46,0
Heating Medium Package (15)	UQ-512501-01	5,8	100%	5,8	31,8	23,9	46,6
Cooling & Heating Med Exp Vessels (15A)	UQ-512501-02	26,1	100%	26,1	48,0	0,2	63,8
Booster Compressor Package (16)	A30005	3,2	100%	3,2	64,6	16,1	44,4
Fuel Gas Treatment Package (17)	UQ-513501	9,4	100%	9,4	97,9	23,1	38,6
Booster Comp Process Pkg (18)	A30003	6,4	100%	6,4	56,9	22,7	46,1
Export Compressor Seal Consule	A31010	2,0	100%	2,0	72,4	21,9	43,7
Production/Test Manifold (19)	UQ-122101-01	6,1	100%	6,1	56,4	1,4	43,8
Flowline Launchers Package (19A)	UQ-121001-02	0,9	100%	0,9	60,9	5,3	52,9
Flowline Receiver Package (19B)	UQ-121001-03	0,3	100%	0,3	51,2	-7,5	43,8
Water Injection Manifold Package (21)	UQ-125101	2,8	100%	2,8	56,4	0,0	37,4
Gas Export Pig Launchers Package	UQ-122314-01	0,7	100%	0,7	45,8	-1,1	52,8
Fuel Gas Export Pig Launchers Package	UQ-122314-02	0,1	100%	0,1	63,4	-7,5	52,6
Export Pig Launcher Package (29)	UQ-122313	1,9	100%	1,9	96,0	-23,9	38,6
Cooling Medium Package (20)	UQ-512401-01	26,8	100%	26,8	26,8	17,0	48,2
Sea Water Chemical Injection (23)	UQ-682502	19,2	100%	19,2	54,5	18,7	37,4
Chemical Injtn Package (Water Inj)	A42001	1,7	100%	1,7	61,6	17,8	38,3
Oil Chemical Injection (Skid 1)	UQ-682501-01	16,5	100%	16,5	50,7	17,6	37,5
Oil Chemical Injection (Skid 2)	UQ-682501-02	28,4	100%	28,4	61,8	13,0	37,7
Chemical Injection Package (Prod)	A42002	1,5	100%	1,5	55,6	13,4	38,3
Gas/Cond. Chemical Injection Package	UQ-682503	38,5	100%	38,5	58,5	13,1	45,0
LP KO Drum Package (27)	UQ-541202	7,8	100%	7,8	63,8	-16,4	44,2
LP KO Drum Pumps Skid (27A)	B-541202A/B	0,1	100%	0,1	66,0	-12,5	43,9
Drains Treatment Package	A45001	14,4	100%	14,4	97,7	14,7	39,1
Seawater Supply Pumps contents	B-511102A/B/C	5,5	100%	5,5	56,4	5,3	20,0
S/Water Pmps Oil Circ Units		0,4	100%	0,4	56,4	-1,3	37,4
LPG Skid	Z-TA-541201	0,1	100%	0,1	60,5	9,5	52,4
Deluge Valve Skids (Tank Top)	Z-542301-5,7-12	1,1	100%	1,1	56,6	24,1	37,6
Deluge Valve Skid (Main Deck)	Z-542306	0,0	100%	0,0	43,8	16,8	44,3
Caisson Pumps Antifouling Package	UE-512101	8,2	100%	8,2	33,0	15,2	44,4
Designated structural steel		16,0	100%	16,0	76,2	6,4	46,5
Piping & Valves		123,0	100%	123,0	60,8	7,9	47,9
Multi-Purpose Court		9,8	100%	9,8	27,8	1,3	43,5
Production Caisson	TD-533601	47,0	100%	47,0	64,7	-16,7	19,8
Production Caisson Skim Oil Pump	B-533606A/B	0,5	100%	0,5	64,8	-13,0	30,3
Risers (Contents)		32,7	100%	32,7	52,2	-1,9	33,7
Umbilical Risers (Contents)		1,8	100%	1,8	70,7	11,4	32,7
Total New Process Content				1650,8	80,5	-11,1	45,6
Total New Process Content (Factored 5%)				**1733,4**	**80,5**	**-11,1**	**45,6**
EXISTING EQUIPMENT (Below Tank Top EL +36.576)							
Compartment		**Max Wt**	**%**	**Weight**	**LCG**	**TCG**	**VCG**
Water Inj. Pump Package (Port)	A-51003B			0,31	40,09	-31,13	4,02
Water Inj. Pump Package (Port)	A-51003A			0,31	40,09	-23,73	4,02
Water Inj. Pump Package (Starb)	A-52003A			0,31	40,09	23,73	4,02
Water Inj. Pump Package (Starb)	A-52003B			0,31	40,09	31,13	4,02
Water Inj. Booster Pump Skid (Port)	A-51004			0,48	75,46	-23,30	2,30
Water Inj. Booster Pump Skid (Starb)	A-52004			0,48	75,46	23,30	2,30
Deaerator Tower (Port)	A-51001			37,98	85,08	-23,73	47,50
Deaerator Tower (Starb)	A-52001			37,98	85,08	23,73	47,50
Piping for Water Injection System				34,14	77,72	0,00	15,50
EXIST EQUIPT (Below Tank Top) TOTAL CONTENT WEIGHT				**112,2**	**82,27**	**0,00**	**28,45**

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DIRETOR
DIVISÃO DE SEGURANÇA PORTUÁRIA

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Load Summary Table
Exist Process Loads

TAG No.		ITEM	WT (Oper)	CO-ORDINATES			REMARKS
Sana-Aker	Fincantieri		(Content)	Long.	Trans.	Vert.	
AMEC			(Te)	(m)	(m)	(m)	
EXISTING EQUIPMENT		**(Below Tank Top EL +36.576)**					
A-51003B	YA/958A	Water Inj. Pump Package (Port)	0,31	40,09	-31,13	4,02	
A-51003A	YA/958B	Water Inj. Pump Package (Port)	0,31	40,09	-23,73	4,02	
A-52003A	YA/958C	Water Inj. Pump Package (Starb)	0,31	40,09	23,73	4,02	
A-52003B	YA/958D	Water Inj. Pump Package (Starb)	0,31	40,09	31,13	4,02	
A-51004	YA/975A	Water Inj. Booster Pump Skid (Port)	0,48	75,46	-23,30	2,30	
A-52004	YA/975B	Water Inj. Booster Pump Skid (Starb)	0,48	75,46	23,30	2,30	
A-51001	YA/991A	Deaerator Tower (Port)	37,96	85,08	-23,73	27,60	
A-52001	YA/991B	Deaerator Tower (Starb)	37,96	85,08	23,73	27,60	
		Piping for Water Injection System	34,14	77,72	0,00	15,50	
EXIST EQUIPT (Below Tank Top) TOTAL CONTENT WEIGHT			**112,2**	**82,27**	**0,00**	**23,45**	

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JOSÉ CARLOS PINHEIRO CARVALHO
DIRETOR
DIVISÃO DE SERVIÇOS CARTORÁRIOS

Load Summary Table
Deck Loads

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Compartment		Max Wt	%	Weight	LCG	TCG	VCG
Miscellaneous Deck Load		300	100%	300	56,39	0	44,5
Helicopter		24	0%	0	21,1	-35	48,9
				300	**56,39**	**0**	**44,5**

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JUSTIÇA JUDICIÁRIA
2635
FOLHA

Load Summary Table
Mooring Tensions

	Vertical Loads from Mooring Lines (Extracted from MECA Output)									
	Line ID	Tension	Angle	Vertical Tension	LCG	TCG	VCG	L*mmt	T*mmt	V*mmt
	S1	140,00	52,93	111,71	24,634	34,838	18,288	2751,76	3891,61	2042,88
	S2	140,00	53,20	112,10	28,194	34,838	18,288	3160,61	3905,42	2050,13
	S3	140,00	53,33	112,29	31,754	34,838	18,288	3565,73	3912,04	2053,60
	S4	140,00	53,42	112,42	35,314	34,838	18,288	3970,13	3916,61	2056,00
	S5	140,00	53,36	112,34	81,022	34,838	18,288	9101,70	3913,57	2054,40
	S6	140,00	53,51	112,55	84,582	34,838	18,288	9520,08	3921,17	2058,40
	S7	140,00	53,54	112,60	88,142	34,838	18,288	9924,62	3922,69	2059,19
	S8	140,00	53,45	112,47	91,702	34,838	18,288	10313,47	3918,13	2056,80
	P1	140,00	49,87	107,04	24,634	-34,838	18,288	2636,87	-3729,12	1957,58
	P2	140,00	49,52	106,49	28,194	-34,838	18,288	3002,34	-3709,85	1947,46
	P3	140,00	49,26	106,08	31,754	-34,838	18,288	3368,31	-3695,44	1939,90
	P4	140,00	48,88	105,47	35,314	-34,838	18,288	3724,45	-3674,25	1928,78
	P5	140,00	45,35	99,60	81,022	-34,838	18,288	8069,61	-3469,79	1821,45
	P6	140,00	45,82	100,40	84,582	-34,838	18,288	8492,16	-3497,79	1836,14
	P7	140,00	46,31	101,23	88,142	-34,838	18,288	8922,82	-3526,73	1851,34
	P8	140,00	47,00	102,39	91,702	-34,838	18,288	9389,32	-3567,05	1872,50
	Total			**1727,17**	**57,85**	**1,41**	**18,29**	99913,99	2431,24	31586,55

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JOSÉ CARLOS PINHEIRO PORTO
DIRETOR

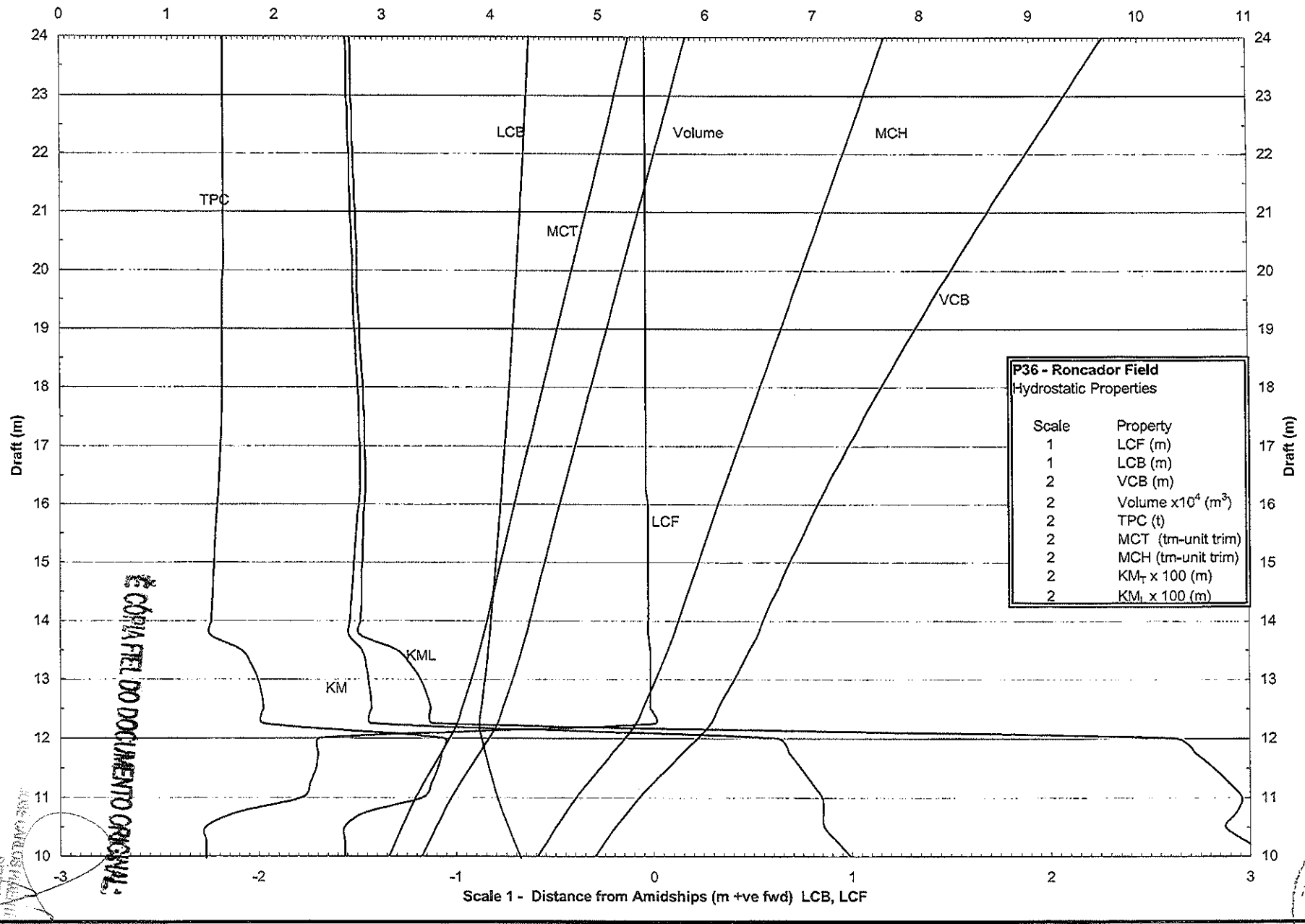


Load Summary Table
Chain on Board

Mooring Chain Onboard (Operational)									
Locker	Weight kg/m	Length (m)	Weight (t)	LCG	TCG	VCG	Lmmt	Tmmt	Vmmt
Port Aft									
1aP	180,5	300	56,86	87,52	-30,50	4,60	4976,168	-1734,15	261,5445
1bP	180,5	300	56,86	81,65	-30,50	4,60	4642,415	-1734,15	261,5445
5P	180,5	300	56,86	86,47	-31,12	16,19	4916,468	-1769,41	920,6366
9P	180,5	300	56,86	91,05	-33,48	13,72	5176,705	-1903,65	779,8575
Port Fwd									
2aP	180,5	300	56,86	31,13	-30,50	4,60	1769,974	-1734,15	261,5445
2bP	180,5	300	56,86	25,26	-30,50	4,60	1436,22	-1734,15	261,5445
6P	180,5	300	56,86	26,31	-31,12	16,19	1495,921	-1769,41	920,6366
10P	180,5	300	56,86	21,73	-33,48	13,72	1235,684	-1903,65	779,8575
Stbd Aft									
4aS	180,5	300	56,86	81,65	30,50	4,60	4642,415	1734,154	261,5445
4bS	180,5	300	56,86	87,52	30,50	4,60	4976,168	1734,154	261,5445
8S	180,5	300	56,86	86,47	31,12	16,19	4916,468	1769,405	920,6366
12S	180,5	300	56,86	91,05	33,48	13,72	5176,705	1903,646	779,8575
Stbd Fwd									
3aS	180,5	300	56,86	25,26	30,50	4,60	1436,22	1734,154	261,5445
3bS	180,5	300	56,86	31,13	30,50	4,60	1769,974	1734,154	261,5445
7S	180,5	300	56,86	26,31	31,12	16,19	1495,921	1769,405	920,6366
11S	180,5	300	56,86	21,73	33,48	13,72	1235,684	1903,646	779,8575
Total			**909,72**	**56,39**	**0,00**	**9,78**	51299,11	0,00	8894,33

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Scale 2 - Volume, TPC, KM_T, KM_L, VCB, MCT, MCH



P36 - Roncador Field
Hydrostatic Properties

Scale	Property
1	LCF (m)
1	LCB (m)
2	VCB (m)
2	Volume x10^4 (m^3)
2	TPC (t)
2	MCT (tm-unit trim)
2	MCH (tm-unit trim)
2	KM_T x 100 (m)
2	KM_L x 100 (m)

CÓPIA FIEL DO DOCUMENTO ORIGINAL

P36 Roncador Field
Hydrostatics (Level Heel and Trim)

Trim = 0.0 degrees (Positive=Trim by Head)
Longitudinal Distances measured from Midships +ve forwards
Transverse Distances measured from C/L +ve to starboard
Draft is vertical Dist from Underside of Keel at midships to Cut Waterplane
Note: MCT and MCH are reported as a function of GML and GMT respectively

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	TPC (t)
0,25	729,83	748,08	-1,47	0,00	0,13	3045,3	-1,61	0,00	3542,4	4180,1	0,07	0,10	30,6
0,50	1517,63	1555,57	-1,37	0,00	0,26	3222,0	-1,13	0,00	1800,0	2160,6	0,14	0,20	32,4
0,75	2332,12	2390,43	-1,28	0,00	0,39	3290,5	-1,10	0,00	1196,5	1450,6	0,21	0,31	33,1
1,00	3162,17	3241,23	-1,23	0,00	0,51	3348,0	-1,07	0,00	897,5	1094,1	0,29	0,42	33,7
1,25	4005,84	4105,99	-1,19	0,00	0,64	3399,3	-0,99	0,00	719,0	879,6	0,36	0,53	34,2
1,50	4858,06	4979,51	-1,15	0,00	0,77	3415,5	-0,95	0,00	596,2	733,1	0,44	0,64	34,3
1,75	5712,85	5855,67	-1,10	0,00	0,90	3428,6	-0,70	0,00	509,9	633,5	0,52	0,75	34,5
2,00	6570,74	6735,01	-1,05	0,00	1,03	3434,1	-0,64	0,00	444,3	553,5	0,60	0,87	34,5
2,25	7429,83	7615,57	-1,00	0,00	1,15	3438,4	-0,60	0,00	393,7	491,5	0,68	0,98	34,6
2,50	8289,92	8497,17	-0,95	0,00	1,28	3442,2	-0,57	0,00	353,5	442,1	0,75	1,09	34,6
2,75	9150,85	9379,62	-0,92	0,00	1,41	3445,0	-0,54	0,00	320,8	401,7	0,83	1,21	34,6
3,00	10012,33	10262,64	-0,88	0,00	1,53	3446,7	-0,51	0,00	293,5	367,8	0,91	1,32	34,7
3,25	10876,01	11147,91	-0,85	0,00	1,66	3456,9	-0,49	0,00	270,9	340,0	0,99	1,43	34,8
3,50	11740,32	12033,83	-0,83	0,00	1,79	3457,8	-0,49	0,01	251,3	315,3	1,07	1,55	34,8
3,75	12605,00	12920,12	-0,80	0,00	1,91	3459,6	-0,49	0,02	234,5	293,9	1,15	1,66	34,8
4,00	13470,09	13806,84	-0,78	0,00	2,04	3461,1	-0,49	0,04	219,8	275,3	1,22	1,78	34,8
4,25	14335,55	14693,94	-0,77	0,01	2,16	3462,5	-0,49	0,05	206,9	258,9	1,30	1,89	34,8
4,50	15201,33	15581,36	-0,75	0,01	2,29	3463,7	-0,49	0,07	195,5	244,4	1,38	2,00	34,8
4,75	16067,03	16468,70	-0,73	0,01	2,42	3463,0	-0,43	0,08	185,3	232,0	1,46	2,12	34,8
5,00	16932,90	17356,23	-0,72	0,02	2,54	3463,7	-0,42	0,08	176,1	220,5	1,54	2,23	34,8
5,25	17798,82	18243,79	-0,70	0,02	2,67	3463,7	-0,42	0,08	167,8	210,0	1,62	2,35	34,8
5,50	18664,74	19131,36	-0,69	0,02	2,79	3463,7	-0,42	0,08	160,3	200,5	1,70	2,46	34,8
5,75	19530,62	20018,89	-0,68	0,02	2,92	3463,2	-0,42	0,08	153,4	191,9	1,78	2,58	34,8
6,00	20396,34	20906,25	-0,67	0,03	3,04	3462,5	-0,42	0,07	147,1	184,0	1,85	2,69	34,8
6,25	21261,13	21792,66	-0,66	0,03	3,17	3456,9	-0,44	0,06	141,2	176,3	1,93	2,80	34,8
6,50	22125,24	22678,37	-0,65	0,03	3,29	3455,9	-0,44	0,05	135,9	169,7	2,01	2,92	34,8
6,75	22988,65	23563,36	-0,64	0,03	3,42	3452,9	-0,44	0,04	130,9	163,6	2,09	3,03	34,7
7,00	23851,72	24448,01	-0,63	0,03	3,54	3451,7	-0,44	0,02	126,4	157,9	2,17	3,15	34,7
7,25	24714,47	25332,33	-0,63	0,03	3,67	3450,3	-0,44	0,01	122,2	152,6	2,25	3,26	34,7

P36 Roncador Field
Hydrostatics (Level Heel and Trim)

Trim = 0.0 degrees (Positive=Trim by Head)
Longitudinal Distances measured from Midships +ve forwards
Transverse Distances measured from C/L +ve to starboard
Draft is vertical Dist from Underside of Keel at midships to Cut Waterplane
Note: MCT and MCH are reported as a function of GML and GMT respectively

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	TPC (t)
7,50	25578,21	26217,67	-0,62	0,03	3,79	3454,4	-0,45	0,02	118,3	147,7	2,32	3,37	34,7
7,75	26443,03	27104,10	-0,62	0,03	3,92	3463,7	-0,44	0,02	114,8	143,5	2,40	3,49	34,8
8,00	27312,17	27994,98	-0,61	0,03	4,05	3489,0	-0,41	-0,05	111,6	139,4	2,48	3,60	35,1
8,25	28183,85	28888,44	-0,60	0,02	4,17	3480,9	-0,38	-0,06	108,0	135,4	2,56	3,72	35,0
8,50	29052,22	29778,52	-0,60	0,02	4,30	3460,0	-0,29	-0,04	104,5	131,8	2,64	3,83	34,8
8,75	29911,74	30659,53	-0,59	0,02	4,42	3423,6	-0,22	0,01	101,0	128,4	2,72	3,94	34,4
9,00	30756,27	31525,18	-0,58	0,02	4,54	3330,9	-0,27	0,01	96,1	124,6	2,80	4,06	33,5
9,25	31507,86	32295,55	-0,59	0,02	4,65	2625,6	-2,17	0,02	77,1	118,2	2,86	4,16	26,4
9,50	32163,97	32968,06	-0,62	0,02	4,75	2623,0	-2,21	0,02	75,7	115,8	2,92	4,24	26,4
9,75	32818,90	33639,37	-0,65	0,02	4,85	2617,8	-2,27	0,02	74,3	113,6	2,98	4,33	26,3
10,00	33473,35	34310,18	-0,68	0,02	4,95	2617,8	-2,27	0,02	73,1	111,5	3,04	4,41	26,3
10,25	34127,79	34980,99	-0,71	0,02	5,04	2617,8	-2,27	0,02	71,9	109,6	3,10	4,50	26,3
10,50	34782,24	35651,80	-0,74	0,02	5,14	2617,8	-2,27	0,02	70,7	107,7	3,16	4,59	26,3
10,75	35451,23	36337,51	-0,77	0,02	5,25	2814,7	-2,11	0,02	70,6	108,7	3,22	4,68	28,3
11,00	36178,88	37083,35	-0,80	0,02	5,36	3337,2	-1,78	0,02	70,5	109,2	3,29	4,77	33,6
11,25	37024,22	37949,83	-0,82	0,02	5,49	3419,4	-1,74	0,02	69,5	108,0	3,37	4,88	34,4
11,50	37886,22	38833,37	-0,84	0,02	5,63	3472,8	-1,71	0,02	68,5	106,6	3,44	5,00	34,9
11,75	38758,99	39727,97	-0,86	0,02	5,76	3506,5	-1,70	0,02	67,4	104,9	3,52	5,11	35,3
12,00	39638,17	40629,13	-0,88	0,02	5,90	3524,4	-1,69	0,02	66,2	103,0	3,60	5,23	35,4
12,25	40419,64	41430,13	-0,89	0,02	6,02	1863,9	0,00	0,03	28,8	34,5	3,67	5,33	18,7
12,50	40885,97	41908,12	-0,88	0,02	6,09	1863,2	-0,02	0,03	28,8	34,3	3,72	5,39	18,7
12,75	41349,75	42383,50	-0,87	0,02	6,16	1844,5	-0,02	0,03	28,7	33,9	3,76	5,45	18,5
13,00	41806,78	42851,95	-0,86	0,02	6,24	1808,5	-0,02	0,03	28,5	33,3	3,80	5,51	18,2
13,25	42252,12	43308,42	-0,85	0,02	6,31	1749,6	-0,02	0,03	28,3	32,4	3,84	5,57	17,6
13,50	42678,47	43745,44	-0,84	0,02	6,38	1652,3	-0,02	0,03	27,9	31,1	3,88	5,63	16,6
13,75	43067,51	44144,20	-0,83	0,02	6,45	1374,3	-0,03	0,04	26,7	27,8	3,91	5,68	13,8
14,00	43411,91	44497,20	-0,83	0,02	6,50	1380,9	-0,03	0,04	26,8	27,8	3,95	5,73	13,9
14,25	43757,93	44851,88	-0,82	0,02	6,56	1387,4	-0,03	0,04	26,9	27,9	3,98	5,77	14,0
14,50	44105,59	45208,23	-0,82	0,02	6,63	1393,9	-0,03	0,04	27,0	27,9	4,01	5,82	14,0
14,75	44454,89	45566,26	-0,81	0,02	6,69	1400,4	-0,03	0,04	27,1	27,9	4,04	5,86	14,1

P36 Roncador Field
Hydrostatics (Level Heel and Trim)

Trim = 0.0 degrees (Positive=Trim by Head)
Longitudinal Distances measured from Midships +ve forwards
Transverse Distances measured from C/L +ve to starboard
Draft is vertical Dist from Underside of Keel at midships to Cut Waterplane
Note: MCT and MCH are reported as a function of GML and GMT respectively

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	TPC (t)
15,00	44805,81	45925,95	-0,80	0,02	6,75	1407,0	-0,03	0,04	27,2	28,0	4,07	5,91	14,1
15,25	45158,37	46287,33	-0,80	0,02	6,82	1413,5	-0,03	0,04	27,3	28,0	4,10	5,96	14,2
15,50	45512,55	46650,37	-0,79	0,02	6,89	1420,0	-0,03	0,04	27,4	28,1	4,14	6,00	14,3
15,75	45868,45	47015,16	-0,79	0,02	6,95	1427,8	-0,03	0,04	27,5	28,1	4,17	6,05	14,4
16,00	46226,67	47382,33	-0,78	0,02	7,02	1438,2	-0,03	0,04	27,7	28,2	4,20	6,10	14,5
16,25	46587,59	47752,28	-0,77	0,02	7,09	1449,3	-0,04	0,04	27,8	28,3	4,23	6,14	14,6
16,50	46950,82	48124,59	-0,77	0,02	7,16	1455,9	-0,04	0,04	27,8	28,3	4,27	6,19	14,6
16,75	47315,57	48498,45	-0,76	0,02	7,24	1462,1	-0,04	0,04	27,8	28,3	4,30	6,24	14,7
17,00	47681,87	48873,92	-0,76	0,02	7,31	1468,3	-0,04	0,04	27,8	28,2	4,33	6,29	14,8
17,25	48049,69	49250,94	-0,75	0,02	7,39	1474,2	-0,04	0,04	27,7	28,2	4,37	6,34	14,8
17,50	48418,92	49629,40	-0,75	0,02	7,46	1479,5	-0,04	0,04	27,7	28,2	4,40	6,39	14,9
17,75	48789,34	50009,08	-0,74	0,02	7,54	1483,6	-0,04	0,04	27,7	28,1	4,43	6,43	14,9
18,00	49160,51	50389,52	-0,74	0,02	7,62	1485,1	-0,04	0,04	27,6	28,1	4,47	6,48	14,9
18,25	49531,78	50770,08	-0,73	0,02	7,70	1485,1	-0,04	0,04	27,5	28,0	4,50	6,53	14,9
18,50	49903,05	51150,63	-0,72	0,02	7,78	1485,1	-0,04	0,04	27,4	27,9	4,54	6,58	14,9
18,75	50274,32	51531,18	-0,72	0,02	7,86	1485,1	-0,04	0,04	27,4	27,8	4,57	6,63	14,9
19,00	50645,59	51911,73	-0,71	0,02	7,94	1485,1	-0,04	0,04	27,3	27,8	4,60	6,68	14,9
19,25	51016,86	52292,28	-0,71	0,02	8,02	1485,1	-0,04	0,04	27,2	27,7	4,64	6,73	14,9
19,50	51388,13	52672,83	-0,71	0,02	8,10	1485,1	-0,04	0,04	27,2	27,6	4,67	6,78	14,9
19,75	51759,40	53053,38	-0,70	0,02	8,18	1485,1	-0,04	0,04	27,1	27,5	4,70	6,83	14,9
20,00	52132,78	53436,09	-0,70	0,02	8,27	1496,2	-0,04	0,04	27,1	27,6	4,74	6,88	15,0
20,25	52506,82	53819,49	-0,69	0,02	8,35	1496,2	-0,04	0,04	27,1	27,5	4,77	6,92	15,0
20,50	52880,86	54202,88	-0,69	0,02	8,44	1496,2	-0,04	0,04	27,0	27,5	4,81	6,97	15,0
20,75	53254,90	54586,28	-0,68	0,02	8,52	1496,2	-0,04	0,04	27,0	27,4	4,84	7,02	15,0
21,00	53628,95	54969,67	-0,68	0,02	8,61	1496,2	-0,04	0,04	26,9	27,4	4,87	7,07	15,0
21,25	54002,99	55353,06	-0,67	0,02	8,69	1496,2	-0,04	0,04	26,9	27,3	4,91	7,12	15,0
21,50	54377,03	55736,46	-0,67	0,02	8,78	1496,2	-0,04	0,04	26,8	27,3	4,94	7,17	15,0
21,75	54751,07	56119,85	-0,66	0,02	8,87	1496,2	-0,04	0,04	26,8	27,2	4,98	7,22	15,0
22,00	55125,12	56503,24	-0,66	0,02	8,96	1496,2	-0,04	0,04	26,8	27,2	5,01	7,27	15,0
22,25	55499,16	56886,64	-0,66	0,02	9,05	1496,2	-0,04	0,04	26,7	27,1	5,04	7,32	15,0

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DIRETOR
SINDICATO DOS SERVIDORES PÚBLICOS

P36 Roncador Field
Hydrostatics (Level Heel and Trim)

Trim = 0.0 degrees (Positive=Trim by Head)
Longitudinal Distances measured from Midships +ve forwards
Transverse Distances measured from C/L +ve to starboard
Draft is vertical Dist from Underside of Keel at midships to Cut Waterplane
Note: MCT and MCH are reported as a function of GML and GMT respectively

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	TPC (t)
22,50	55873,20	57270,03	-0,65	0,03	9,14	1496,2	-0,04	0,04	26,7	27,1	5,08	7,37	15,0
22,75	56247,24	57653,42	-0,65	0,03	9,23	1496,2	-0,04	0,04	26,7	27,1	5,11	7,42	15,0
23,00	56621,29	58036,82	-0,64	0,03	9,32	1496,2	-0,04	0,04	26,6	27,0	5,15	7,47	15,0
23,25	56995,33	58420,21	-0,64	0,03	9,41	1496,2	-0,04	0,04	26,6	27,0	5,18	7,52	15,0
23,50	57369,37	58803,60	-0,64	0,03	9,50	1496,2	-0,04	0,04	26,6	27,0	5,21	7,57	15,0
23,75	57743,41	59187,00	-0,63	0,03	9,59	1496,2	-0,04	0,04	26,6	27,0	5,25	7,62	15,0
24,00	58117,45	59570,39	-0,63	0,03	9,68	1496,2	-0,04	0,04	26,5	26,9	5,28	7,66	15,0
24,25	58491,50	59953,78	-0,62	0,03	9,77	1496,2	-0,04	0,04	26,5	26,9	5,32	7,71	15,0
24,50	58865,54	60337,18	-0,62	0,03	9,87	1496,2	-0,04	0,04	26,5	26,9	5,35	7,76	15,0
24,75	59238,98	60719,95	-0,62	0,03	9,96	1489,5	-0,04	0,04	26,3	26,7	5,38	7,81	15,0
25,00	59610,17	61100,43	-0,61	0,03	10,05	1480,1	-0,04	0,04	26,1	26,6	5,42	7,86	14,9
25,25	59979,04	61478,52	-0,61	0,03	10,14	1470,8	-0,04	0,04	25,9	26,4	5,45	7,91	14,8
25,50	60345,57	61854,21	-0,61	0,03	10,24	1461,5	-0,04	0,04	25,6	26,2	5,48	7,96	14,7
25,75	60709,77	62227,52	-0,60	0,03	10,33	1452,1	-0,04	0,04	25,4	26,1	5,52	8,01	14,6
26,00	61071,64	62598,43	-0,60	0,03	10,42	1442,8	-0,04	0,04	25,2	25,9	5,55	8,05	14,5
26,25	61431,17	62966,95	-0,60	0,03	10,51	1433,5	-0,04	0,04	25,0	25,8	5,58	8,10	14,4
26,50	61788,38	63333,09	-0,59	0,03	10,61	1424,2	-0,04	0,04	24,8	25,6	5,62	8,15	14,3
26,75	62143,25	63696,83	-0,59	0,03	10,70	1414,8	-0,04	0,04	24,6	25,5	5,65	8,20	14,2
27,00	62495,78	64058,18	-0,59	0,03	10,79	1405,5	-0,04	0,04	24,5	25,3	5,68	8,24	14,1
27,25	62845,99	64417,14	-0,58	0,03	10,88	1396,2	-0,04	0,04	24,3	25,2	5,71	8,29	14,0
27,50	63177,56	64757,00	-0,58	0,03	10,97	1148,4	-0,05	0,05	20,0	20,5	5,74	8,33	11,5
27,75	63464,67	65051,28	-0,58	0,03	11,04	1148,4	-0,05	0,05	20,1	20,5	5,77	8,37	11,5
28,00	63751,77	65345,56	-0,58	0,03	11,12	1148,4	-0,05	0,05	20,1	20,6	5,79	8,41	11,5
28,25	64038,87	65639,84	-0,57	0,03	11,19	1148,4	-0,05	0,05	20,1	20,6	5,82	8,45	11,5
28,50	64325,97	65934,12	-0,57	0,03	11,27	1148,4	-0,05	0,05	20,1	20,6	5,85	8,48	11,5
28,75	64613,08	66228,40	-0,57	0,03	11,35	1148,4	-0,05	0,05	20,2	20,7	5,87	8,52	11,5
29,00	64900,18	66522,68	-0,57	0,03	11,42	1148,4	-0,05	0,05	20,2	20,7	5,90	8,56	11,5
29,25	65187,28	66816,96	-0,56	0,03	11,50	1148,4	-0,05	0,05	20,3	20,7	5,92	8,60	11,5
29,50	65474,38	67111,24	-0,56	0,03	11,58	1148,4	-0,05	0,05	20,3	20,8	5,95	8,64	11,5
29,75	65761,49	67405,52	-0,56	0,03	11,66	1148,4	-0,05	0,05	20,3	20,8	5,98	8,67	11,5

CÓPIA FIEL DO DOCUMENTO ORIGINAL

P36 Roncador Field
Hydrostatics (Level Heel and Trim)

Trim = 0.0 degrees (Positive=Trim by Head)
Longitudinal Distances measured from Midships +ve forwards
Transverse Distances measured from C/L +ve to starboard
Draft is vertical Dist from Underside of Keel at midships to Cut Waterplane
Note: MCT and MCH are reported as a function of GML and GMT respectively

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	TPC (t)
30,00	66048,59	67699,80	-0,56	0,03	11,74	1148,4	-0,05	0,05	20,4	20,8	6,00	8,71	11,5
30,25	66335,69	67994,09	-0,56	0,03	11,82	1148,4	-0,05	0,05	20,4	20,9	6,03	8,75	11,5
30,50	66621,46	68287,00	-0,55	0,03	11,90	1143,1	-0,03	0,00	20,4	20,9	6,06	8,79	11,5
30,75	66907,24	68579,92	-0,55	0,03	11,98	1143,1	-0,03	0,00	20,5	20,9	6,08	8,82	11,5
31,00	67193,01	68872,83	-0,55	0,03	12,06	1143,1	-0,03	0,00	20,5	21,0	6,11	8,86	11,5
31,25	67478,78	69165,75	-0,55	0,03	12,14	1143,1	-0,03	0,00	20,6	21,0	6,13	8,90	11,5
31,50	67764,55	69458,66	-0,55	0,03	12,22	1143,1	-0,03	0,00	20,6	21,1	6,16	8,94	11,5
31,75	68050,32	69751,58	-0,54	0,03	12,30	1143,1	-0,03	0,00	20,6	21,1	6,18	8,97	11,5
32,00	68336,11	70044,51	-0,54	0,03	12,38	1143,5	-0,03	0,00	20,7	21,2	6,21	9,01	11,5
32,25	68621,91	70337,46	-0,54	0,03	12,47	1143,3	-0,03	0,00	20,7	21,2	6,24	9,05	11,5
32,50	68907,75	70630,44	-0,54	0,03	12,55	1143,4	-0,03	0,00	20,8	21,2	6,26	9,09	11,5
32,75	69193,59	70923,43	-0,53	0,03	12,63	1143,4	-0,03	0,00	20,8	21,3	6,29	9,13	11,5
33,00	69479,43	71216,42	-0,53	0,03	12,71	1143,4	-0,03	0,00	20,9	21,3	6,31	9,16	11,5
33,25	69765,27	71509,40	-0,53	0,03	12,80	1143,4	-0,03	0,00	20,9	21,4	6,34	9,20	11,5
33,50	70051,11	71802,39	-0,53	0,03	12,88	1143,4	-0,03	0,00	21,0	21,4	6,37	9,24	11,5
33,75	70336,95	72095,38	-0,53	0,03	12,97	1143,4	-0,03	0,00	21,0	21,5	6,39	9,28	11,5
34,00	70622,49	72388,05	-0,52	0,03	13,05	1139,5	0,00	0,00	21,1	21,5	6,42	9,31	11,5
34,25	70906,93	72679,60	-0,52	0,03	13,14	1135,8	0,00	0,00	21,1	21,6	6,44	9,35	11,4
34,50	71190,25	72970,01	-0,52	0,03	13,22	1130,7	0,00	0,00	21,2	21,6	6,47	9,39	11,4
34,75	71472,22	73259,02	-0,52	0,03	13,30	1124,9	0,00	0,00	21,2	21,6	6,50	9,43	11,3
35,00	71752,68	73546,49	-0,52	0,03	13,39	1118,7	0,00	-0,01	21,3	21,7	6,52	9,46	11,2
35,26	72642,97	74459,04	-0,50	0,00	13,69	4808,1	0,00	0,00	39,4	40,6	6,60	9,58	48,3
35,51	73844,26	75690,36	-0,50	0,00	14,05	4802,2	0,00	0,00	39,3	40,5	6,71	9,74	48,3
35,76	75044,13	76920,23	-0,49	0,00	14,39	4796,8	0,00	0,00	39,2	40,5	6,82	9,90	48,2
36,01	76242,77	78148,84	-0,48	0,00	14,73	4792,5	0,00	0,00	39,2	40,4	6,93	10,06	48,2
36,26	77440,66	79376,67	-0,47	0,00	15,06	4790,6	0,00	0,00	39,1	40,3	7,04	10,21	48,2
36,51	78638,34	80604,30	-0,47	0,00	15,39	4790,6	0,00	0,00	39,1	40,3	7,15	10,37	48,2
36,76	79767,38	81761,55	-0,46	0,00	15,69	4409,5	0,00	0,00	38,9	40,1	7,25	10,52	44,3
37,01	80869,73	82891,47	-0,45	0,00	15,98	4409,6	0,00	0,00	38,9	40,0	7,35	10,67	44,3
37,26	81972,10	84021,40	-0,45	0,00	16,26	4409,6	0,00	0,00	38,9	40,0	7,45	10,81	44,3

CÓPIA FIEL DO DOCUMENTO ORIGINAL

P36 Roncador Field
Hydrostatics (Level Heel and Trim)

Trim = 0.0 degrees (Positive=Trim by Head)
Longitudinal Distances measured from Midships +ve forwards
Transverse Distances measured from C/L +ve to starboard
Draft is vertical Dist from Underside of Keel at midships to Cut Waterplane
Note: MCT and MCH are reported as a function of GML and GMT respectively

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KMT (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	TPC (t)
37,51	83074,53	85151,39	-0,44	0,00	16,54	4409,6	0,00	0,00	38,8	39,9	7,55	10,96	44,3
37,76	84176,87	86281,29	-0,43	0,00	16,82	4409,5	0,00	0,00	38,8	39,9	7,65	11,10	44,3
38,01	85279,25	87411,23	-0,43	0,00	17,09	4409,5	0,00	0,00	38,8	39,9	7,75	11,25	44,3
38,26	86381,66	88541,20	-0,42	0,00	17,36	4409,6	0,00	0,00	38,8	39,9	7,85	11,39	44,3
38,51	87484,02	89671,13	-0,42	0,00	17,62	4409,5	0,00	0,00	38,8	39,8	7,95	11,54	44,3
38,76	88586,44	90801,09	-0,41	0,00	17,88	4409,6	0,00	0,00	38,8	39,8	8,05	11,68	44,3
39,01	89688,79	91931,01	-0,41	0,00	18,14	4409,5	0,00	0,00	38,8	39,8	8,15	11,83	44,3
39,26	90791,16	93060,94	-0,40	0,00	18,40	4409,5	0,00	0,00	38,8	39,8	8,25	11,97	44,3
39,51	91893,52	94190,86	-0,40	0,00	18,65	4409,6	0,00	0,00	38,8	39,8	8,35	12,12	44,3
39,76	92992,80	95317,62	-0,39	0,00	18,90	4387,1	0,00	0,00	38,6	39,7	8,45	12,26	44,1
40,01	94089,56	96441,80	-0,39	0,00	19,14	4387,1	0,00	0,00	38,6	39,7	8,55	12,41	44,1
40,26	95186,32	97565,98	-0,38	0,00	19,38	4387,1	0,00	0,00	38,6	39,7	8,65	12,55	44,1
40,51	96283,10	98690,18	-0,38	0,00	19,62	4387,1	0,00	0,00	38,6	39,7	8,75	12,70	44,1
40,76	97379,90	99814,39	-0,38	0,00	19,86	4387,1	0,00	0,00	38,6	39,7	8,85	12,84	44,1
41,01	98476,65	100938,56	-0,37	0,00	20,09	4387,1	0,00	0,00	38,7	39,7	8,95	12,99	44,1
41,26	99573,34	102062,66	-0,37	0,00	20,33	4387,1	0,00	0,00	38,7	39,8	9,05	13,13	44,1
41,51	100670,05	103186,80	-0,36	0,00	20,55	4387,1	0,00	0,00	38,7	39,8	9,15	13,28	44,1
41,76	101766,84	104311,02	-0,36	0,00	20,78	4387,1	0,00	0,00	38,8	39,8	9,25	13,42	44,1
42,01	102863,60	105435,19	-0,36	0,00	21,01	4387,1	0,00	0,00	38,8	39,8	9,35	13,57	44,1
42,26	103960,34	106559,34	-0,35	0,00	21,23	4387,1	0,00	0,00	38,8	39,8	9,45	13,71	44,1
42,51	105057,10	107683,52	-0,35	0,00	21,45	4387,1	0,00	0,00	38,9	39,9	9,55	13,86	44,1

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	K (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	T (t)
0,25	729,83	748,08	-1,47	0,00	0,13	3045,3	-1,61	0,00	3542,4	4180,1	0,07	0,10	30,6
0,50	1517,63	1555,57	-1,37	0,00	0,26	3222,0	-1,13	0,00	1800,0	2160,6	0,14	0,20	32,4
0,75	2332,12	2390,43	-1,28	0,00	0,39	3290,5	-1,10	0,00	1196,5	1450,6	0,21	0,31	33,1
1,00	3162,17	3241,23	-1,23	0,00	0,51	3348,0	-1,07	0,00	897,5	1094,1	0,29	0,42	33,7
1,25	4005,84	4105,99	-1,19	0,00	0,64	3399,3	-0,99	0,00	719,0	879,6	0,36	0,53	34,2
1,50	4858,06	4979,51	-1,15	0,00	0,77	3415,5	-0,95	0,00	596,2	733,1	0,44	0,64	34,3
1,75	5712,85	5855,67	-1,10	0,00	0,90	3428,6	-0,70	0,00	509,9	633,5	0,52	0,75	34,5
2,00	6570,74	6735,01	-1,05	0,00	1,03	3434,1	-0,64	0,00	444,3	553,5	0,60	0,87	34,5
2,25	7429,83	7615,57	-1,00	0,00	1,15	3438,4	-0,60	0,00	393,7	491,5	0,68	0,98	34,6
2,50	8289,92	8497,17	-0,95	0,00	1,28	3442,2	-0,57	0,00	353,5	442,1	0,75	1,09	34,6
2,75	9150,85	9379,62	-0,92	0,00	1,41	3445,0	-0,54	0,00	320,8	401,7	0,83	1,21	34,6
3,00	10012,33	10262,64	-0,88	0,00	1,53	3446,7	-0,51	0,00	293,5	367,8	0,91	1,32	34,7
3,25	10876,01	11147,91	-0,85	0,00	1,66	3456,9	-0,49	0,00	270,9	340,0	0,99	1,43	34,8
3,50	11740,32	12033,83	-0,83	0,00	1,79	3457,8	-0,49	0,01	251,3	315,3	1,07	1,55	34,8
3,75	12605,00	12920,12	-0,80	0,00	1,91	3459,6	-0,49	0,02	234,5	293,9	1,15	1,66	34,8
4,00	13470,09	13806,84	-0,78	0,00	2,04	3461,1	-0,49	0,04	219,8	275,3	1,22	1,78	34,8
4,25	14335,55	14693,94	-0,77	0,01	2,16	3462,5	-0,49	0,05	206,9	258,9	1,30	1,89	34,8
4,50	15201,33	15581,36	-0,75	0,01	2,29	3463,7	-0,49	0,07	195,5	244,4	1,38	2,00	34,8
4,75	16067,03	16468,70	-0,73	0,01	2,42	3463,0	-0,43	0,08	185,3	232,0	1,46	2,12	34,8
5,00	16932,90	17356,23	-0,72	0,02	2,54	3463,7	-0,42	0,08	176,1	220,5	1,54	2,23	34,8
5,25	17798,82	18243,79	-0,70	0,02	2,67	3463,7	-0,42	0,08	167,8	210,0	1,62	2,35	34,8
5,50	18664,74	19131,36	-0,69	0,02	2,79	3463,7	-0,42	0,08	160,3	200,5	1,70	2,46	34,8
5,75	19530,62	20018,89	-0,68	0,02	2,92	3463,2	-0,42	0,08	153,4	191,9	1,78	2,58	34,8
6,00	20396,34	20906,25	-0,67	0,03	3,04	3462,5	-0,42	0,07	147,1	184,0	1,85	2,69	34,8
6,25	21261,13	21792,66	-0,66	0,03	3,17	3456,9	-0,44	0,06	141,2	176,3	1,93	2,80	34,8
6,50	22125,24	22678,37	-0,65	0,03	3,29	3455,9	-0,44	0,05	135,9	169,7	2,01	2,92	34,8
6,75	22988,65	23563,36	-0,64	0,03	3,42	3452,9	-0,44	0,04	130,9	163,6	2,09	3,03	34,7
7,00	23851,72	24448,01	-0,63	0,03	3,54	3451,7	-0,44	0,02	126,4	157,9	2,17	3,15	34,7
7,25	24714,47	25332,33	-0,63	0,03	3,67	3450,3	-0,44	0,01	122,2	152,6	2,25	3,26	34,7
7,50	25578,21	26217,67	-0,62	0,03	3,79	3454,4	-0,45	0,02	118,3	147,7	2,32	3,37	34,7
7,75	26443,03	27104,10	-0,62	0,03	3,92	3463,7	-0,44	0,02	114,8	143,5	2,40	3,49	34,8
8,00	27312,17	27994,98	-0,61	0,03	4,05	3489,0	-0,41	-0,05	111,6	139,4	2,48	3,60	35,1
8,25	28183,85	28888,44	-0,60	0,02	4,17	3480,9	-0,38	-0,06	108,0	135,4	2,56	3,72	35,0
8,50	29052,22	29778,52	-0,60	0,02	4,30	3460,0	-0,29	-0,04	104,5	131,8	2,64	3,83	34,8
8,75	29911,74	30659,53	-0,59	0,02	4,42	3423,6	-0,22	0,01	101,0	128,4	2,72	3,94	34,4
9,00	30756,27	31525,18	-0,58	0,02	4,54	3330,9	-0,27	0,01	96,1	124,6	2,80	4,06	33,5
9,25	31507,86	32295,55	-0,59	0,02	4,65	2625,6	-2,17	0,02	77,1	118,2	2,86	4,16	26,4
9,50	32163,97	32968,06	-0,62	0,02	4,75	2623,0	-2,21	0,02	75,7	115,8	2,92	4,24	26,4
9,75	32818,90	33639,37	-0,65	0,02	4,85	2617,8	-2,27	0,02	74,3	113,6	2,98	4,33	26,3

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	K (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	(t)
10,00	33473,35	34310,18	-0,68	0,02	4,95	2617,8	-2,27	0,02	73,1	111,5	3,04	4,41	26,3
10,25	34127,79	34980,99	-0,71	0,02	5,04	2617,8	-2,27	0,02	71,9	109,6	3,10	4,50	26,3
10,50	34782,24	35651,80	-0,74	0,02	5,14	2617,8	-2,27	0,02	70,7	107,7	3,16	4,59	26,3
10,75	35451,23	36337,51	-0,77	0,02	5,25	2814,7	-2,11	0,02	70,6	108,7	3,22	4,68	28,3
11,00	36178,88	37083,35	-0,80	0,02	5,36	3337,2	-1,78	0,02	70,5	109,2	3,29	4,77	33,6
11,25	37024,22	37949,83	-0,82	0,02	5,49	3419,4	-1,74	0,02	69,5	108,0	3,37	4,88	34,4
11,50	37886,22	38833,37	-0,84	0,02	5,63	3472,8	-1,71	0,02	68,5	106,6	3,44	5,00	34,9
11,75	38758,99	39727,97	-0,86	0,02	5,76	3506,5	-1,70	0,02	67,4	104,9	3,52	5,11	35,3
12,00	39638,17	40629,13	-0,88	0,02	5,90	3524,4	-1,69	0,02	66,2	103,0	3,60	5,23	35,4
12,25	40419,64	41430,13	-0,89	0,02	6,02	1863,9	0,00	0,03	28,8	34,5	3,67	5,33	18,7
12,50	40885,97	41908,12	-0,88	0,02	6,09	1863,2	-0,02	0,03	28,8	34,3	3,72	5,39	18,7
12,75	41349,75	42383,50	-0,87	0,02	6,16	1844,5	-0,02	0,03	28,7	33,9	3,76	5,45	18,5
13,00	41806,78	42851,95	-0,86	0,02	6,24	1808,5	-0,02	0,03	28,5	33,3	3,80	5,51	18,2
13,25	42252,12	43308,42	-0,85	0,02	6,31	1749,6	-0,02	0,03	28,3	32,4	3,84	5,57	17,6
13,50	42678,47	43745,44	-0,84	0,02	6,38	1652,3	-0,02	0,03	27,9	31,1	3,88	5,63	16,6
13,75	43067,51	44144,20	-0,83	0,02	6,45	1374,3	-0,03	0,04	26,7	27,8	3,91	5,68	13,8
14,00	43411,91	44497,20	-0,83	0,02	6,50	1380,9	-0,03	0,04	26,8	27,8	3,95	5,73	13,9
14,25	43757,93	44851,88	-0,82	0,02	6,56	1387,4	-0,03	0,04	26,9	27,9	3,98	5,77	14,0
14,50	44105,59	45208,23	-0,82	0,02	6,63	1393,9	-0,03	0,04	27,0	27,9	4,01	5,82	14,0
14,75	44454,89	45566,26	-0,81	0,02	6,69	1400,4	-0,03	0,04	27,1	27,9	4,04	5,86	14,1
15,00	44805,81	45925,95	-0,80	0,02	6,75	1407,0	-0,03	0,04	27,2	28,0	4,07	5,91	14,1
15,25	45158,37	46287,33	-0,80	0,02	6,82	1413,5	-0,03	0,04	27,3	28,0	4,10	5,96	14,2
15,50	45512,55	46650,37	-0,79	0,02	6,89	1420,0	-0,03	0,04	27,4	28,1	4,14	6,00	14,3
15,75	45868,45	47015,16	-0,79	0,02	6,95	1427,8	-0,03	0,04	27,5	28,1	4,17	6,05	14,4
16,00	46226,67	47382,33	-0,78	0,02	7,02	1438,2	-0,03	0,04	27,7	28,2	4,20	6,10	14,5
16,25	46587,59	47752,28	-0,77	0,02	7,09	1449,3	-0,04	0,04	27,8	28,3	4,23	6,14	14,6
16,50	46950,82	48124,59	-0,77	0,02	7,16	1455,9	-0,04	0,04	27,8	28,3	4,27	6,19	14,6
16,75	47315,57	48498,45	-0,76	0,02	7,24	1462,1	-0,04	0,04	27,8	28,3	4,30	6,24	14,7
17,00	47681,87	48873,92	-0,76	0,02	7,31	1468,3	-0,04	0,04	27,8	28,2	4,33	6,29	14,8
17,25	48049,69	49250,94	-0,75	0,02	7,39	1474,2	-0,04	0,04	27,7	28,2	4,37	6,34	14,8
17,50	48418,92	49629,40	-0,75	0,02	7,46	1479,5	-0,04	0,04	27,7	28,2	4,40	6,39	14,9
17,75	48789,34	50009,08	-0,74	0,02	7,54	1483,6	-0,04	0,04	27,7	28,1	4,43	6,43	14,9
18,00	49160,51	50389,52	-0,74	0,02	7,62	1485,1	-0,04	0,04	27,6	28,1	4,47	6,48	14,9
18,25	49531,78	50770,08	-0,73	0,02	7,70	1485,1	-0,04	0,04	27,5	28,0	4,50	6,53	14,9
18,50	49903,05	51150,63	-0,72	0,02	7,78	1485,1	-0,04	0,04	27,4	27,9	4,54	6,58	14,9
18,75	50274,32	51531,18	-0,72	0,02	7,86	1485,1	-0,04	0,04	27,4	27,8	4,57	6,63	14,9
19,00	50645,59	51911,73	-0,71	0,02	7,94	1485,1	-0,04	0,04	27,3	27,8	4,60	6,68	14,9
19,25	51016,86	52292,28	-0,71	0,02	8,02	1485,1	-0,04	0,04	27,2	27,7	4,64	6,73	14,9
19,50	51388,13	52672,83	-0,71	0,02	8,10	1485,1	-0,04	0,04	27,2	27,6	4,67	6,78	14,9
19,75	51759,40	53053,38	-0,70	0,02	8,18	1485,1	-0,04	0,04	27,1	27,5	4,70	6,83	14,9

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

D. .FT (m)	OLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCI (m)	KI (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	(t)
20,00	52132,78	53436,09	-0,70	0,02	8,27	1496,2	-0,04	0,04	27,1	27,6	4,74	6,88	15,0
20,25	52506,82	53819,49	-0,69	0,02	8,35	1496,2	-0,04	0,04	27,1	27,5	4,77	6,92	15,0
20,50	52880,86	54202,88	-0,69	0,02	8,44	1496,2	-0,04	0,04	27,0	27,5	4,81	6,97	15,0
20,75	53254,90	54586,28	-0,68	0,02	8,52	1496,2	-0,04	0,04	27,0	27,4	4,84	7,02	15,0
21,00	53628,95	54969,67	-0,68	0,02	8,61	1496,2	-0,04	0,04	26,9	27,4	4,87	7,07	15,0
21,25	54002,99	55353,06	-0,67	0,02	8,69	1496,2	-0,04	0,04	26,9	27,3	4,91	7,12	15,0
21,50	54377,03	55736,46	-0,67	0,02	8,78	1496,2	-0,04	0,04	26,8	27,3	4,94	7,17	15,0
21,75	54751,07	56119,85	-0,66	0,02	8,87	1496,2	-0,04	0,04	26,8	27,2	4,98	7,22	15,0
22,00	55125,12	56503,24	-0,66	0,02	8,96	1496,2	-0,04	0,04	26,8	27,2	5,01	7,27	15,0
22,25	55499,16	56886,64	-0,66	0,02	9,05	1496,2	-0,04	0,04	26,7	27,1	5,04	7,32	15,0
22,50	55873,20	57270,03	-0,65	0,03	9,14	1496,2	-0,04	0,04	26,7	27,1	5,08	7,37	15,0
22,75	56247,24	57653,42	-0,65	0,03	9,23	1496,2	-0,04	0,04	26,7	27,1	5,11	7,42	15,0
23,00	56621,29	58036,82	-0,64	0,03	9,32	1496,2	-0,04	0,04	26,6	27,0	5,15	7,47	15,0
23,25	56995,33	58420,21	-0,64	0,03	9,41	1496,2	-0,04	0,04	26,6	27,0	5,18	7,52	15,0
23,50	57369,37	58803,60	-0,64	0,03	9,50	1496,2	-0,04	0,04	26,6	27,0	5,21	7,57	15,0
23,75	57743,41	59187,00	-0,63	0,03	9,59	1496,2	-0,04	0,04	26,6	27,0	5,25	7,62	15,0
24,00	58117,45	59570,39	-0,63	0,03	9,68	1496,2	-0,04	0,04	26,5	26,9	5,28	7,66	15,0
24,25	58491,50	59953,78	-0,62	0,03	9,77	1496,2	-0,04	0,04	26,5	26,9	5,32	7,71	15,0
24,50	58865,54	60337,18	-0,62	0,03	9,87	1496,2	-0,04	0,04	26,5	26,9	5,35	7,76	15,0
24,75	59238,98	60719,95	-0,62	0,03	9,96	1489,5	-0,04	0,04	26,3	26,7	5,38	7,81	15,0
25,00	59610,17	61100,43	-0,61	0,03	10,05	1480,1	-0,04	0,04	26,1	26,6	5,42	7,86	14,9
25,25	59979,04	61478,52	-0,61	0,03	10,14	1470,8	-0,04	0,04	25,9	26,4	5,45	7,91	14,8
25,50	60345,57	61854,21	-0,61	0,03	10,24	1461,5	-0,04	0,04	25,6	26,2	5,48	7,96	14,7
25,75	60709,77	62227,52	-0,60	0,03	10,33	1452,1	-0,04	0,04	25,4	26,1	5,52	8,01	14,6
26,00	61071,64	62598,43	-0,60	0,03	10,42	1442,8	-0,04	0,04	25,2	25,9	5,55	8,05	14,5
26,25	61431,17	62966,95	-0,60	0,03	10,51	1433,5	-0,04	0,04	25,0	25,8	5,58	8,10	14,4
26,50	61788,38	63333,09	-0,59	0,03	10,61	1424,2	-0,04	0,04	24,8	25,6	5,62	8,15	14,3
26,75	62143,25	63696,83	-0,59	0,03	10,70	1414,8	-0,04	0,04	24,6	25,5	5,65	8,20	14,2
27,00	62495,78	64058,18	-0,59	0,03	10,79	1405,5	-0,04	0,04	24,5	25,3	5,68	8,24	14,1
27,25	62845,99	64417,14	-0,58	0,03	10,88	1396,2	-0,04	0,04	24,3	25,2	5,71	8,29	14,0
27,50	63177,56	64757,00	-0,58	0,03	10,97	1148,4	-0,05	0,05	20,0	20,5	5,74	8,33	11,5
27,75	63464,67	65051,28	-0,58	0,03	11,04	1148,4	-0,05	0,05	20,1	20,5	5,77	8,37	11,5
28,00	63751,77	65345,56	-0,58	0,03	11,12	1148,4	-0,05	0,05	20,1	20,6	5,79	8,41	11,5
28,25	64038,87	65639,84	-0,57	0,03	11,19	1148,4	-0,05	0,05	20,1	20,6	5,82	8,45	11,5
28,50	64325,97	65934,12	-0,57	0,03	11,27	1148,4	-0,05	0,05	20,1	20,6	5,85	8,48	11,5
28,75	64613,08	66228,40	-0,57	0,03	11,35	1148,4	-0,05	0,05	20,2	20,7	5,87	8,52	11,5
29,00	64900,18	66522,68	-0,57	0,03	11,42	1148,4	-0,05	0,05	20,2	20,7	5,90	8,56	11,5
29,25	65187,28	66816,96	-0,56	0,03	11,50	1148,4	-0,05	0,05	20,3	20,7	5,92	8,60	11,5
29,50	65474,38	67111,24	-0,56	0,03	11,58	1148,4	-0,05	0,05	20,3	20,8	5,95	8,64	11,5
29,75	65761,49	67405,52	-0,56	0,03	11,66	1148,4	-0,05	0,05	20,3	20,8	5,98	8,67	11,5

COPIA DEL DOCUMENTO ORIGINAL

DRAFT (m)	VOLUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TCF (m)	KB (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	TPC (t)
30,00	66048,59	67699,80	-0,56	0,03	11,74	1148,4	-0,05	0,05	20,4	20,8	6,00	8,71	11,5
30,25	66335,69	67994,09	-0,56	0,03	11,82	1148,4	-0,05	0,05	20,4	20,9	6,03	8,75	11,5
30,50	66621,46	68287,00	-0,55	0,03	11,90	1143,1	-0,03	0,00	20,4	20,9	6,06	8,79	11,5
30,75	66907,24	68579,92	-0,55	0,03	11,98	1143,1	-0,03	0,00	20,5	20,9	6,08	8,82	11,5
31,00	67193,01	68872,83	-0,55	0,03	12,06	1143,1	-0,03	0,00	20,5	21,0	6,11	8,86	11,5
31,25	67478,78	69165,75	-0,55	0,03	12,14	1143,1	-0,03	0,00	20,6	21,0	6,13	8,90	11,5
31,50	67764,55	69458,66	-0,55	0,03	12,22	1143,1	-0,03	0,00	20,6	21,1	6,16	8,94	11,5
31,75	68050,32	69751,58	-0,54	0,03	12,30	1143,1	-0,03	0,00	20,6	21,1	6,18	8,97	11,5
32,00	68336,11	70044,51	-0,54	0,03	12,38	1143,5	-0,03	0,00	20,7	21,2	6,21	9,01	11,5
32,25	68621,91	70337,46	-0,54	0,03	12,47	1143,3	-0,03	0,00	20,7	21,2	6,24	9,05	11,5
32,50	68907,75	70630,44	-0,54	0,03	12,55	1143,4	-0,03	0,00	20,8	21,2	6,26	9,09	11,5
32,75	69193,59	70923,43	-0,53	0,03	12,63	1143,4	-0,03	0,00	20,8	21,3	6,29	9,13	11,5
33,00	69479,43	71216,42	-0,53	0,03	12,71	1143,4	-0,03	0,00	20,9	21,3	6,31	9,16	11,5
33,25	69765,27	71509,40	-0,53	0,03	12,80	1143,4	-0,03	0,00	20,9	21,4	6,34	9,20	11,5
33,50	70051,11	71802,39	-0,53	0,03	12,88	1143,4	-0,03	0,00	21,0	21,4	6,37	9,24	11,5
33,75	70336,95	72095,38	-0,53	0,03	12,97	1143,4	-0,03	0,00	21,0	21,5	6,39	9,28	11,5
34,00	70622,49	72388,05	-0,52	0,03	13,05	1139,5	0,00	0,00	21,1	21,5	6,42	9,31	11,5
34,25	70906,93	72679,60	-0,52	0,03	13,14	1135,8	0,00	0,00	21,1	21,6	6,44	9,35	11,4
34,50	71190,25	72970,01	-0,52	0,03	13,22	1130,7	0,00	0,00	21,2	21,6	6,47	9,39	11,4
34,75	71472,22	73259,02	-0,52	0,03	13,30	1124,9	0,00	0,00	21,2	21,6	6,50	9,43	11,3
35,00	71752,68	73546,49	-0,52	0,03	13,39	1118,7	0,00	-0,01	21,3	21,7	6,52	9,46	11,2
35,26	72642,97	74459,04	-0,50	0,00	13,69	4808,1	0,00	0,00	39,4	40,6	6,60	9,58	48,3
35,51	73844,26	75690,36	-0,50	0,00	14,05	4802,2	0,00	0,00	39,3	40,5	6,71	9,74	48,3
35,76	75044,13	76920,23	-0,49	0,00	14,39	4796,8	0,00	0,00	39,2	40,5	6,82	9,90	48,2
36,01	76242,77	78148,84	-0,48	0,00	14,73	4792,5	0,00	0,00	39,2	40,4	6,93	10,06	48,2
36,26	77440,66	79376,67	-0,47	0,00	15,06	4790,6	0,00	0,00	39,1	40,3	7,04	10,21	48,2
36,51	78638,34	80604,30	-0,47	0,00	15,39	4790,6	0,00	0,00	39,1	40,3	7,15	10,37	48,2
36,76	79767,38	81761,55	-0,46	0,00	15,69	4409,5	0,00	0,00	38,9	40,1	7,25	10,52	44,3
37,01	80869,73	82891,47	-0,45	0,00	15,98	4409,6	0,00	0,00	38,9	40,0	7,35	10,67	44,3
37,26	81972,10	84021,40	-0,45	0,00	16,26	4409,6	0,00	0,00	38,9	40,0	7,45	10,81	44,3
37,51	83074,53	85151,39	-0,44	0,00	16,54	4409,6	0,00	0,00	38,8	39,9	7,55	10,96	44,3
37,76	84176,87	86281,29	-0,43	0,00	16,82	4409,5	0,00	0,00	38,8	39,9	7,65	11,10	44,3
38,01	85279,25	87411,23	-0,43	0,00	17,09	4409,5	0,00	0,00	38,8	39,9	7,75	11,25	44,3
38,26	86381,66	88541,20	-0,42	0,00	17,36	4409,6	0,00	0,00	38,8	39,9	7,85	11,39	44,3
38,51	87484,02	89671,13	-0,42	0,00	17,62	4409,5	0,00	0,00	38,8	39,8	7,95	11,54	44,3
38,76	88586,44	90801,09	-0,41	0,00	17,88	4409,6	0,00	0,00	38,8	39,8	8,05	11,68	44,3
39,01	89688,79	91931,01	-0,41	0,00	18,14	4409,5	0,00	0,00	38,8	39,8	8,15	11,83	44,3
39,26	90791,16	93060,94	-0,40	0,00	18,40	4409,5	0,00	0,00	38,8	39,8	8,25	11,97	44,3
39,51	91893,52	94190,86	-0,40	0,00	18,65	4409,6	0,00	0,00	38,8	39,8	8,35	12,12	44,3
39,76	92992,80	95317,62	-0,39	0,00	18,90	4387,1	0,00	0,00	38,6	39,7	8,45	12,26	44,1

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DI[illegible]T (m)	[illegible]LUME (m^3)	DISPL. (tonnes)	LCB (m)	TCB (m)	VCB (m)	WPA (m^2)	LCF (m)	TC[illegible] (m)	K[illegible] (m)	KML (m)	MCT*F (GML) (tm-cm)	MCH*F (GMT) (tm-cm)	[illegible] (t)
40,01	94089,56	96441,80	-0,39	0,00	19,14	4387,1	0,00	0,00	38,6	39,7	8,55	12,41	44,1
40,26	95186,32	97565,98	-0,38	0,00	19,38	4387,1	0,00	0,00	38,6	39,7	8,65	12,55	44,1
40,51	96283,10	98690,18	-0,38	0,00	19,62	4387,1	0,00	0,00	38,6	39,7	8,75	12,70	44,1
40,76	97379,90	99814,39	-0,38	0,00	19,86	4387,1	0,00	0,00	38,6	39,7	8,85	12,84	44,1
41,01	98476,65	100938,56	-0,37	0,00	20,09	4387,1	0,00	0,00	38,7	39,7	8,95	12,99	44,1
41,26	99573,34	102062,66	-0,37	0,00	20,33	4387,1	0,00	0,00	38,7	39,8	9,05	13,13	44,1
41,51	100670,05	103186,80	-0,36	0,00	20,55	4387,1	0,00	0,00	38,7	39,8	9,15	13,28	44,1
41,76	101766,84	104311,02	-0,36	0,00	20,78	4387,1	0,00	0,00	38,8	39,8	9,25	13,42	44,1
42,01	102863,60	105435,19	-0,36	0,00	21,01	4387,1	0,00	0,00	38,8	39,8	9,35	13,57	44,1
42,26	103960,34	106559,34	-0,35	0,00	21,23	4387,1	0,00	0,00	38,8	39,8	9,45	13,71	44,1
42,51	105057,10	107683,52	-0,35	0,00	21,45	4387,1	0,00	0,00	38,9	39,9	9,55	13,86	44,1

CÓPIA FIEL DO DOCUMENTO ORIGINAL
ASS. CARLOS ALBERTO
DATA

DRAFT	DISPLACEMENT (t)			LCB (m) from FP			VCB (m) ABL			WPA (m^2)			LCF (m) from FP			KMT (m)			KML (m)		
	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error
0,26	779,33	823,8	-44,47	57,8644	57,94	-0,08	0,13	0,13	0,00	3053,53	3108,293	-54,7627	57,99	57,77	0,22	3409,2	3279,26	129,94	4023,5	3894,82	128,68
0,51	1588,62	1638,52	-49,90	57,7531	57,79	-0,04	0,26	0,26	0,00	3225,76	3240	-14,24	57,52	57,55	-0,03	1764,7	1719,17	45,53	2119,8	2065,59	54,21
0,76	2424,17	2479,58	-55,41	57,6681	57,7	-0,03	0,39	0,38	0,01	3293,09	3321,951	-28,8612	57,49	57,48	0,01	1180,8	1164,45	16,35	1432	1408,83	23,17
1,01	3275,54	3337,71	-62,17	57,6193	57,63	-0,01	0,52	0,51	0,01	3350,17	3373,659	-23,4885	57,46	57,44	0,02	888,7	878,69	10,01	1083,5	1068,63	14,87
1,26	4140,86	4207,17	-66,31	57,5801	57,58	0,00	0,65	0,64	0,01	3400,98	3413,659	-12,6785	57,38	57,30	0,08	713,3	705,35	7,95	872,8	865,47	7,33
1,51	5014,53	5084,86	-70,33	57,5404	57,52	0,02	0,78	0,77	0,01	3415,93	3435,122	-19,192	57,34	57,20	0,14	592,2	587,50	4,70	728,2	725,33	2,87
1,76	5893,07	5966,27	-73,20	57,4892	57,47	0,02	0,9	0,9	0,00	3438,2	3443,902	-5,70244	57,08	57,13	-0,05	507,4	502,40	5,00	631,2	623,14	8,06
2,01	6774,85	6849,69	-74,84	57,4322	57,42	0,01	1,03	1,03	0,00	3443,62	3450,732	-7,11171	57,03	57,08	-0,05	442,3	438,72	3,58	551,7	545,77	5,93
2,26	7657,83	7734,48	-76,65	57,3835	57,38	0,00	1,16	1,15	0,01	3447,89	3454,634	-6,74415	56,99	57,04	-0,05	392,1	389,29	2,81	490	485,24	4,76
2,51	8541,84	8620,2	-78,36	57,3413	57,35	-0,01	1,29	1,28	0,01	3451,64	3457,561	-5,92098	56,96	57,01	-0,05	352,2	349,84	2,36	440,9	436,6	4,30
2,76	9426,71	9506,5	-79,79	57,304	57,31	-0,01	1,41	1,41	0,00	3454,43	3459,512	-5,0822	56,92	56,99	-0,07	319,6	317,64	1,96	400,7	396,7	4,00
3,01	10312,13	10393,16	-81,03	57,2703	57,29	-0,02	1,54	1,53	0,01	3456,05	3460,488	-4,4378	56,9	56,97	-0,07	292,6	290,89	1,71	367	363,42	3,58
3,26	11197,84	11280,05	-82,21	57,2402	57,26	-0,02	1,67	1,66	0,01	3456,93	3461,463	-4,53341	56,88	56,96	-0,08	269,8	268,32	1,48	338,5	335,26	3,24
3,51	12083,74	12167,08	-83,34	57,2139	57,24	-0,03	1,79	1,78	0,01	3457,12	3461,463	-4,34341	56,88	56,96	-0,08	250,2	249,03	1,17	314	311,16	2,84
3,76	12969,59	13054,17	-84,58	57,1911	57,22	-0,03	1,92	1,91	0,01	3457,12	3461,463	-4,34341	56,88	56,96	-0,08	233,4	232,37	1,03	292,8	290,3	2,50
4,01	13855,49	13941,29	-85,80	57,1714	57,2	-0,03	2,04	2,04	0,00	3457,12	3462,439	-5,31902	56,88	56,95	-0,07	218,7	217,83	0,87	274,3	272,08	2,22
4,26	14741,39	14828,42	-87,03	57,1539	57,19	-0,04	2,17	2,16	0,01	3457,11	3462,439	-5,32902	56,88	56,95	-0,07	205,8	205,05	0,75	258,1	256,05	2,05
4,51	15627,3	15715,55	-88,25	57,1385	57,18	-0,04	2,29	2,29	0,00	3457,11	3462,439	-5,32902	56,88	56,95	-0,07	194,4	193,72	0,68	243,7	241,85	1,85
4,76	16513,67	16602,86	-89,19	57,123	57,16	-0,04	2,42	2,41	0,01	3460,02	3463,415	-3,39463	56,83	56,94	-0,11	184,4	183,66	0,74	231,4	229,36	2,04
5,01	17400,4	17490,24	-89,84	57,108	57,15	-0,04	2,55	2,54	0,01	3460,37	3463,415	-3,04463	56,83	56,94	-0,11	175,2	174,59	0,61	219,9	217,97	1,93
5,26	18287,12	18377,62	-90,50	57,0945	57,14	-0,05	2,67	2,66	0,01	3460,37	3463,415	-3,04463	56,83	56,94	-0,11	167	166,41	0,59	209,5	207,7	1,80
5,51	19173,8	19265,01	-91,21	57,0821	57,13	-0,05	2,8	2,79	0,01	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	159,5	158,99	0,51	200,1	198,38	1,72
5,76	20060,54	20152,39	-91,85	57,0709	57,12	-0,05	2,92	2,91	0,01	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	152,7	152,24	0,46	191,5	189,89	1,61
6,01	20947,21	21039,77	-92,56	57,0607	57,11	-0,05	3,05	3,04	0,01	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	146,5	146,07	0,43	183,6	182,13	1,47
6,26	21833,96	21927,15	-93,19	57,0512	57,1	-0,05	3,17	3,16	0,01	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	140,8	140,40	0,40	176,4	175,01	1,39
6,51	22720,67	22814,53	-93,86	57,0426	57,1	-0,06	3,3	3,29	0,01	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	135,5	135,19	0,31	169,8	168,45	1,35
6,76	23607,38	23701,91	-94,53	57,0344	57,09	-0,06	3,42	3,41	0,01	3460,37	3463,415	-3,04463	56,83	56,94	-0,11	130,7	130,38	0,32	163,7	162,39	1,31
7,01	24494,09	24589,29	-95,20	57,0269	57,08	-0,05	3,55	3,54	0,01	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	126,2	125,92	0,28	158	156,78	1,22
7,26	25380,86	25476,67	-95,81	57,0201	57,08	-0,06	3,67	3,67	0,00	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	122,1	121,78	0,32	152,7	151,57	1,13
7,51	26267,57	26364,05	-96,48	57,0137	57,07	-0,06	3,8	3,79	0,01	3460,36	3463,415	-3,05463	56,83	56,94	-0,11	118,2	117,93	0,27	147,8	146,71	1,09
7,76	27154,24	27251,37	-97,13	57,0075	57,07	-0,06	3,92	3,92	0,00	3460,36	3462,439	-2,07902	56,83	56,94	-0,11	114,6	114,32	0,28	143,2	142,18	1,02
8,01	28040,29	28137,38	-97,09	57,0017	57,07	-0,07	4,05	4,04	0,01	3451,21	3455,61	-4,39976	56,83	56,94	-0,11	110,9	110,77	0,13	138,9	137,93	0,97
8,26	28922,57	29021,9	-99,33	56,9965	57,06	-0,06	4,17	4,17	0,00	3434,86	3442,927	-8,06683	56,83	56,94	-0,11	107,3	107,30	0,00	134,9	133,93	0,97
8,51	29800,63	29901,73	-101,10	56,9915	57,06	-0,07	4,3	4,29	0,01	3418,52	3421,463	-2,94341	56,83	56,94	-0,11	104	103,81	0,19	131,1	130,16	0,94
8,76	30674,25	30774,81	-100,56	56,9871	57,06	-0,07	4,42	4,41	0,01	3391,65	3388,293	3,357317	56,83	56,95	-0,12	100,5	110,24	-9,74	127,5	126,59	0,91
9,01	31532,35	31636,98	-104,63	56,983	57,06	-0,08	4,54	4,53	0,01	3304,84	3329,756	-24,9161	56,84	56,96	-0,12	95,8	96,28	-0,48	124	123,17	0,83
9,26	32251,03	32372,71	-121,68	56,9818	57,06	-0,08	4,65	4,64	0,01	2289,44	2270,244	19,1961	57,05	57,23	-0,18	69,2	68,77	0,43	116,3	115,1	1,20
9,51	32837,67	32954,53	-116,86	56,9829	57,06	-0,08	4,73	4,72	0,01	2289,45	2270,244	19,21	57,05	57,23	-0,18	68,2	67,72	0,48	114,4	113,23	1,17
9,76	33424,3	33536,34	-112,04	56,9841	57,06	-0,08	4,82	4,81	0,01	2289,44	2270,244	19,20	57,05	57,23	-0,18	67,1	66,71	0,39	112,5	111,43	1,07
10,01	34010,99	34118,15	-107,16	56,9853	57,07	-0,08	4,9	4,89	0,01	2289,44	2270,244	19,20	57,05	57,23	-0,18	66,1	65,74	0,36	110,8	109,7	1,10
10,26	34597,73	34699,97	-102,24	56,9865	57,07	-0,08	4,99	4,98	0,01	2289,45	2270,244	19,21	57,05	57,23	-0,18	65,2	64,81	0,39	109,1	108,03	1,07
10,51	35184,36	35281,78	-97,42	56,9876	57,07	-0,08	5,08	5,07	0,01	2289,44	2270,244	19,20	57,05	57,23	-0,18	64,3	63,91	0,39	107,4	106,42	0,98
10,76	35787,98	35908,77	-120,79	56,9884	57,07	-0,08	5,18	5,17	0,01	2494,78	2657,561	-162,78	57	57,10	-0,10	64,5	64,54	-0,04	108,8	108,29	0,51
11,01	36452,03	36607,09	-155,06	56,9881	57,07	-0,08	5,28	5,28	0,00	2868,76	2786,341	82,42	56,92	57,07	-0,15	64,5	64,14	0,36	109,3	108,26	1,04
11,26	37198,27	37332,09	-133,82	56,9865	57,07	-0,08	5,4	5,29	0,11	2949,44	2870,244	79,20	56,9	57,05	-0,15	63,9	63,51	0,39	108,4	107,45	0,95
11,51	37961,26	38075,29	-114,03	56,9847	57,07	-0,09	5,52	5,51	0,01	3001,93	2929,756	72,17	56,9	57,04	-0,14	63,1	62,75	0,35	107,2	106,28	0,92
11,76	38735,12	38831,38	-96,26	56,9829	57,07	-0,09	5,64	5,63	0,01	3035	2970,732	64,27	56,89	57,03	-0,14	62,2	61,92	0,28	105,7	104,88	0,82

ESTA COPIA É DOCUMENTO ORIGINAL

DRAFT	DISPLACEMENT (t)			LCB (m) from FP			VCB (m) ABL			WPA (m^2)			LCF (m) from FP			KMT (m)			KML (m)		
	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error
12,01	39515,41	39596,3	-80,89	56,9809	57,07	-0,09	5,76	5,75	0,01	3052,29	2998,05	54,24	56,89	57,02	-0,13	61,3	61,05	0,25	104,1	103,32	0,78
12,26	40191,77	40285,43	-93,66	56,978	57,07	-0,09	5,87	5,86	0,01	1572,65	1591,22	-18,57	56,39	56,39	0,00	24,9	25,55	-0,65	31,3	32,88	-1,58
12,51	40593,77	40693,53	-99,76	56,9723	57,06	-0,09	5,93	5,92	0,01	1561,73	1592,195	-30,47	56,39	56,39	0,00	24,7	25,39	-0,69	30,9	32,54	-1,64
12,76	40990,95	41100,17	-109,22	56,9666	57,05	-0,08	6	5,99	0,01	1535,89	1578,537	-42,65	56,39	56,39	0,00	24,5	25,16	-0,66	30,4	32,05	-1,65
13,01	41379,38	41499,04	-119,66	56,9611	57,05	-0,09	6,06	6,06	0,00	1492,61	1510,244	-17,63	56,39	56,39	0,00	24,2	24,27	-0,07	29,7	29,8	-0,10
13,26	41754,05	41880,36	-126,31	56,9563	57,04	-0,08	6,13	6,12	0,01	1426,03	1460,488	-34,46	56,39	56,39	0,00	23,8	23,91	-0,11	28,7	28,88	-0,18
13,51	42111,21	42245,26	-134,05	56,9511	57,04	-0,09	6,19	6,18	0,01	1354,78	1376,585	-21,81	56,39	56,39	0,00	23,2	23,41	-0,21	27,3	27,54	-0,24
13,76	42431,52	42579,63	-148,11	56,947	57,03	-0,08	6,25	6,24	0,01	1075,79	1182,439	-106,65	56,39	56,39	0,00	21,9	22,52	-0,62	23,8	24,71	-0,91
14,01	42707,24	42861,75	-154,51	56,9436	57,03	-0,09	6,3	6,29	0,01	1075,79	1078,049	-2,26	56,39	56,39	0,00	21,8	21,81	-0,01	23,7	23,67	0,03
14,26	42982,83	43138,14	-155,31	56,9399	57,02	-0,08	6,35	6,34	0,01	1075,79	1079,024	-3,23	56,39	56,39	0,00	21,8	21,76	0,04	23,7	23,61	0,09
14,51	43258,47	43414,94	-156,47	56,9363	57,02	-0,08	6,4	6,39	0,01	1075,79	1080,976	-5,19	56,39	56,39	0,00	21,7	21,71	-0,01	23,6	23,55	0,05
14,76	43534,09	43692,14	-158,05	56,9328	57,02	-0,09	6,45	6,45	0,00	1075,79	1082,927	-7,14	56,39	56,39	0,00	21,7	21,67	0,03	23,5	23,49	0,01
15,01	43809,75	43969,73	-159,98	56,9294	57,01	-0,08	6,5	6,5	0,00	1075,79	1083,902	-8,11	56,39	56,39	0,00	21,6	21,62	-0,02	23,5	23,44	0,06
15,26	44089,92	44247,92	-158,00	56,9259	57,01	-0,08	6,56	6,55	0,01	1121,83	1091,707	30,12	56,39	56,39	0,00	22,9	21,76	1,14	24,3	23,5	0,80
15,51	44382,02	44531,84	-149,82	56,9225	57	-0,08	6,61	6,61	0,00	1157,61	1125,854	31,76	56,39	56,39	0,00	23,7	22,65	1,05	24,8	24,07	0,73
15,76	44682,51	44824,39	-141,88	56,9188	57	-0,08	6,68	6,67	0,01	1189,25	1160	29,25	56,39	56,39	0,00	24,6	23,57	1,03	25,3	24,65	0,65
16,01	44991,7	45126,15	-134,45	56,9153	57	-0,08	6,74	6,73	0,01	1223,59	1197,073	26,52	56,39	56,39	0,00	25,5	24,56	0,94	25,9	25,24	0,66
16,26	45309,7	45437,64	-127,94	56,9114	56,99	-0,08	6,8	6,79	0,01	1259,12	1236,098	23,02	56,39	56,39	0,00	26,5	25,58	0,92	26,4	25,85	0,55
16,51	45634,48	45755,84	-121,36	56,9078	56,99	-0,08	6,87	6,86	0,01	1271,07	1244,878	26,19	56,39	56,39	0,00	26,7	25,71	0,99	26,5	25,92	0,58
16,76	45960,96	46075,66	-114,70	56,9041	56,98	-0,08	6,94	6,93	0,01	1276,65	1251,707	24,94	56,39	56,39	0,00	26,7	25,71	0,99	26,5	25,93	0,57
17,01	46288,6	46396,43	-107,83	56,9004	56,98	-0,08	7,01	7	0,01	1280,65	1253,659	26,99	56,39	56,39	0,00	26,6	25,65	0,95	26,4	25,81	0,59
17,26	46617,27	46718,52	-101,25	56,8969	56,97	-0,07	7,08	7,07	0,01	1284,34	1259,512	24,83	56,39	56,39	0,00	26,6	25,65	0,95	26,3	25,82	0,48
17,51	46946,93	47042,03	-95,10	56,8935	56,97	-0,08	7,16	7,14	0,02	1287,37	1265,366	22,00	56,39	56,39	0,00	26,5	25,64	0,86	26,2	25,81	0,39
17,76	47277,03	47365,4	-88,37	56,8899	56,97	-0,08	7,23	7,21	0,02	1289,22	1262,439	26,78	56,39	56,39	0,00	26,4	25,50	0,90	26,1	25,58	0,52
18,01	47607,34	47689,12	-81,78	56,8864	56,96	-0,07	7,3	7,28	0,02	1288,37	1263,415	24,96	56,39	56,39	0,00	26,3	25,45	0,85	26	25,53	0,47
18,26	47937,25	48012,95	-75,70	56,883	56,96	-0,08	7,38	7,36	0,02	1286,17	1263,415	22,76	56,39	56,39	0,00	26,2	25,39	0,81	25,9	25,47	0,43
18,51	48266,48	48335,35	-68,87	56,8796	56,96	-0,08	7,45	7,43	0,02	1283,97	1257,561	26,41	56,39	56,39	0,00	26,1	25,21	0,89	25,8	25,21	0,59
18,76	48595,28	48657,5	-62,22	56,8763	56,95	-0,07	7,53	7,5	0,03	1281,78	1257,561	24,22	56,39	56,39	0,00	26	25,16	0,84	25,6	25,16	0,44
19,01	48923,46	48979,65	-56,19	56,873	56,95	-0,08	7,6	7,58	0,02	1279,57	1257,561	22,01	56,39	56,39	0,00	25,9	25,11	0,79	25,5	25,11	0,39
19,26	49251,09	49300,44	-49,35	56,87	56,94	-0,07	7,68	7,65	0,03	1277,37	1250,732	26,64	56,39	56,39	0,00	25,8	24,94	0,86	25,4	24,94	0,46
19,51	49578,04	49620,9	-42,86	56,8666	56,94	-0,07	7,76	7,73	0,03	1275,17	1250,732	24,44	56,39	56,39	0,00	25,7	24,90	0,80	25,3	24,9	0,40
19,76	49904,51	49941,36	-36,85	56,8634	56,94	-0,08	7,84	7,81	0,03	1272,97	1250,732	22,24	56,39	56,39	0,00	25,6	24,86	0,74	25,2	24,86	0,34
20,01	50232,8	50260,54	-27,74	56,8605	56,93	-0,07	7,92	7,88	0,04	1281,86	1243,902	37,96	56,39	56,39	0,00	25,7	24,70	1,00	25,2	24,7	0,50
20,26	50560,9	50579,34	-18,44	56,8573	56,93	-0,07	7,99	7,96	0,03	1279,67	1243,902	35,77	56,39	56,39	0,00	25,6	24,67	0,93	25,1	24,5	0,60
20,51	50888,62	50898,2	-9,58	56,8543	56,93	-0,08	8,07	8,04	0,03	1277,47	1244,878	32,59	56,39	56,39	0,00	25,5	24,63	0,87	25	24,47	0,53
20,76	51212,27	51213,27	-1,00	56,8514	56,92	-0,07	8,15	8,12	0,03	1240,58	1205,854	34,73	56,39	56,39	0,00	24,4	23,62	0,78	24,3	23,75	0,55
21,01	51524,12	51516,6	7,52	56,8486	56,92	-0,07	8,23	8,19	0,04	1192,75	1160	32,75	56,39	56,39	0,00	23,1	22,38	0,72	23,5	22,97	0,53
21,26	51823,48	51808,04	15,44	56,8459	56,92	-0,07	8,31	8,26	0,05	1144,92	1113,171	31,75	56,39	56,39	0,00	21,9	21,21	0,69	22,7	22,21	0,49
21,51	52107,87	52088,78	19,09	56,8434	56,91	-0,07	8,38	8,33	0,05	1095,4	1089,756	5,64	56,39	56,39	0,00	20,8	20,68	0,12	21,8	21,73	0,07
21,76	52388,24	52368	20,24	56,841	56,91	-0,07	8,45	8,4	0,05	1093,2	1089,756	3,44	56,39	56,39	0,00	20,7	20,68	0,02	21,8	21,73	0,07
22,01	52668,13	52647,4	20,73	56,8387	56,91	-0,07	8,52	8,48	0,04	1091	1090,732	0,27	56,39	56,39	0,00	20,7	20,69	0,01	21,7	21,73	-0,03
22,26	52947,4	52925,96	21,44	56,8363	56,91	-0,07	8,59	8,55	0,04	1088,8	1084,878	3,92	56,39	56,39	0,00	20,6	20,58	0,02	21,6	21,56	0,04
22,51	53226,12	53204,03	22,09	56,8339	56,9	-0,07	8,66	8,62	0,04	1086,6	1085,854	0,75	56,39	56,39	0,00	20,6	20,59	0,01	21,6	21,56	0,04
22,76	53504,21	53482,29	21,92	56,8315	56,9	-0,07	8,74	8,69	0,05	1084,4	1085,854	-1,45	56,39	56,39	0,00	20,6	20,60	0,00	21,5	21,57	-0,07
23,01	53781,92	53759,74	22,18	56,8294	56,9	-0,07	8,81	8,77	0,04	1082,2	1080	2,20	56,39	56,39	0,00	20,5	20,50	0,00	21,5	21,4	0,10
23,26	54058,83	54036,62	22,21	56,827	56,9	-0,07	8,88	8,84	0,04	1080,01	1080,976	-0,97	56,39	56,39	0,00	20,5	20,51	-0,01	21,4	21,41	-0,01
23,51	54335,27	54313,65	21,62	56,8247	56,89	-0,07	8,96	8,91	0,05	1077,8	1080,976	-3,18	56,39	56,39	0,00	20,5	20,53	-0,03	21,4	21,42	-0,02
23,76	54611,19	54589,94	21,25	56,8225	56,89	-0,07	9,03	8,99	0,04	1075,61	1075,122	0,49	56,39	56,39	0,00	20,4	20,43	-0,03	21,3	21,26	0,04

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PEREIRA DE SOUZA
DIRETOR
MATRÍCULA 0200263

TRIBUNAL MARÍTIMO

	DISPLACEMENT (t)			LCB (m) from FP			VCB (m) ABL			WPA (m²)			LCF (m) from FP			KMT (m)			KML (m)		
DRAFT	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error
24,01	54886,54	54865,52	21,02	56,8204	56,89	-0,07	9,1	9,06	0,04	1073,41	1075,122	-1,71	56,39	56,39	0,00	20,4	20,44	-0,04	21,3	21,27	0,03
24,26	55161,28	55141,16	20,12	56,8182	56,89	-0,07	9,18	9,14	0,04	1071,2	1076,098	-4,90	56,39	56,39	0,00	20,4	20,46	-0,06	21,2	21,28	-0,08
24,51	55435,53	55416,25	19,28	56,8161	56,88	-0,06	9,25	9,21	0,04	1069	1071,22	-2,22	56,39	56,39	0,00	20,4	20,39	0,01	21,2	21,17	0,03
24,76	55709,17	55690,18	18,99	56,8141	56,88	-0,07	9,33	9,29	0,04	1065,86	1062,439	3,42	56,39	56,39	0,00	20,3	20,26	0,04	21,1	20,98	0,12
25,01	55981,56	55962,42	19,14	56,8119	56,88	-0,07	9,41	9,37	0,04	1060,26	1062,439	-2,18	56,39	56,39	0,00	20,3	20,28	0,02	21	20,99	0,01
25,26	56252,55	56234,66	17,89	56,8099	56,88	-0,07	9,48	9,44	0,04	1054,67	1062,439	-7,77	56,39	56,39	0,00	20,2	20,30	-0,10	20,9	21	-0,10
25,51	56522,08	56503,92	18,16	56,8079	56,87	-0,06	9,56	9,52	0,04	1049,07	1047,805	1,27	56,39	56,39	0,00	20,1	20,08	0,02	20,8	20,68	0,12
25,76	56790,22	56772,42	17,80	56,8059	56,87	-0,06	9,63	9,6	0,03	1043,48	1047,805	-4,32	56,39	56,39	0,00	20	20,10	-0,10	20,6	20,7	-0,10
26,01	57056,48	57040,25	16,23	56,804	56,87	-0,07	9,71	9,67	0,04	1036,62	1040,976	-4,36	56,39	56,39	0,00	20	20,00	0,00	20,5	20,56	-0,06
26,26	57322,15	57306,89	15,26	56,8021	56,87	-0,07	9,79	9,75	0,04	1036,62	1040,976	-4,36	56,39	56,39	0,00	20	20,03	-0,03	20,5	20,58	-0,08
26,51	57587,77	57573,53	14,24	56,8002	56,86	-0,06	9,86	9,83	0,03	1036,62	1040,976	-4,36	56,39	56,39	0,00	20	20,05	-0,05	20,6	20,6	0,00
26,76	57853,41	57840,16	13,25	56,7983	56,86	-0,06	9,94	9,9	0,04	1036,62	1040,976	-4,36	56,39	56,39	0,00	20	20,08	-0,08	20,6	20,62	-0,02
27,01	58119,05	58106,8	12,25	56,7965	56,86	-0,06	10,02	9,98	0,04	1036,62	1040,976	-4,36	56,39	56,39	0,00	20,1	20,11	-0,01	20,6	20,65	-0,05
27,26	58384,7	58373,43	11,27	56,7946	56,86	-0,07	10,09	10,06	0,03	1036,62	1040,976	-4,36	56,39	56,39	0,00	20,1	20,13	-0,03	20,6	20,67	-0,07
27,51	58655,78	58640,18	15,60	56,7928	56,86	-0,07	10,17	10,14	0,03	1061,95	1043,902	18,05	56,39	56,39	0,00	20,1	20,16	-0,06	20,7	20,7	0,00
27,76	58927,91	58908,76	19,15	56,7909	56,85	-0,06	10,25	10,22	0,03	1061,95	1052,683	9,27	56,39	56,39	0,00	20,1	20,20	-0,10	20,7	20,73	-0,03
28,01	59200,02	59179,65	20,37	56,7891	56,85	-0,06	10,34	10,3	0,04	1061,95	1061,463	0,49	56,39	56,39	0,00	20,2	20,23	-0,03	20,7	20,76	-0,06
28,26	59472,13	59452,73	19,40	56,7872	56,85	-0,06	10,42	10,38	0,04	1061,95	1070,244	-8,29	56,39	56,39	0,00	20,2	20,26	-0,06	20,7	20,79	-0,09
28,51	59744,29	59727,89	16,40	56,7854	56,85	-0,06	10,5	10,46	0,04	1061,95	1078,049	-16,10	56,39	56,39	0,00	20,2	20,30	-0,10	20,8	20,83	-0,03
28,76	60016,41	60005,01	11,40	56,7836	56,85	-0,07	10,58	10,55	0,03	1061,95	1084,878	-22,93	56,39	56,39	0,00	20,3	20,33	-0,03	20,8	20,86	-0,06
29,01	60288,48	60283,76	4,72	56,7818	56,84	-0,06	10,66	10,63	0,03	1061,95	1088,78	-26,83	56,39	56,39	0,00	20,3	20,37	-0,07	20,8	20,89	-0,09
29,26	60565,32	60562,7	2,62	56,78	56,84	-0,06	10,75	10,72	0,03	1083,74	1087,805	-4,06	56,39	56,39	0,00	20,4	20,41	-0,01	20,9	20,93	-0,03
29,51	60842,99	60841,42	1,57	56,7782	56,84	-0,06	10,83	10,8	0,03	1083,74	1086,829	-3,09	56,39	56,39	0,00	20,4	20,44	-0,04	20,9	20,96	-0,06
29,76	61120,73	61119,91	0,82	56,7765	56,84	-0,06	10,92	10,89	0,03	1083,74	1086,829	-3,09	56,39	56,39	0,00	20,4	20,48	-0,08	20,9	21	-0,10
30,01	61398,45	61398,19	0,26	56,7748	56,83	-0,06	11	10,97	0,03	1083,74	1085,854	-2,11	56,39	56,39	0,00	20,5	20,52	-0,02	21	21,03	-0,03
30,26	61676,12	61676,24	-0,12	56,773	56,83	-0,06	11,09	11,06	0,03	1083,74	1084,878	-1,14	56,39	56,39	0,00	20,5	20,56	-0,06	21	21,07	-0,07
30,51	61953,84	61954,06	-0,22	56,7713	56,83	-0,06	11,18	11,15	0,03	1083,74	1083,902	-0,16	56,39	56,39	0,00	20,6	20,60	0,00	21,1	21,1	0,00
30,76	62231,55	62231,66	-0,11	56,7696	56,83	-0,06	11,26	11,23	0,03	1083,74	1082,927	0,81	56,39	56,39	0,00	20,6	20,64	-0,04	21,1	21,14	-0,04
31,01	62509,3	62509,04	0,26	56,7679	56,83	-0,06	11,35	11,32	0,03	1083,74	1081,951	1,79	56,39	56,39	0,00	20,6	20,68	-0,08	21,1	21,18	-0,08
31,26	62787,03	62786,2	0,83	56,7663	56,83	-0,06	11,44	11,41	0,03	1083,74	1080,976	2,76	56,39	56,39	0,00	20,7	20,72	-0,02	21,2	21,22	-0,02
31,51	63064,72	63063,13	1,59	56,7646	56,82	-0,06	11,53	11,5	0,03	1083,74	1080	3,74	56,39	56,39	0,00	20,7	20,77	-0,07	21,2	21,26	-0,06
31,76	63342,44	63339,85	2,59	56,763	56,82	-0,06	11,61	11,59	0,02	1083,74	1079,024	4,72	56,39	56,39	0,00	20,8	20,81	-0,01	21,3	21,3	0,00
32,01	63620,16	63616,34	3,82	56,7614	56,82	-0,06	11,7	11,67	0,03	1083,74	1078,049	5,69	56,39	56,39	0,00	20,8	20,85	-0,05	21,3	21,35	-0,05
32,26	63897,89	63892,6	5,29	56,7598	56,82	-0,06	11,79	11,76	0,03	1083,74	1078,049	5,69	56,39	56,39	0,00	20,9	20,90	0,00	21,4	21,39	0,01
32,51	64175,62	64168,65	6,97	56,7582	56,82	-0,06	11,88	11,85	0,03	1083,74	1077,073	6,67	56,39	56,39	0,00	20,9	20,94	-0,04	21,4	21,43	-0,03
32,76	64453,31	64444,48	8,83	56,7566	56,81	-0,05	11,97	11,94	0,03	1083,74	1076,098	7,64	56,39	56,39	0,00	21	20,99	0,01	21,4	21,48	-0,08
33,01	64731,01	64720,08	10,93	56,755	56,81	-0,05	12,06	12,03	0,03	1083,74	1075,122	8,62	56,39	56,39	0,00	21	21,04	-0,04	21,5	21,52	-0,02
33,26	65008,72	64995,49	13,23	56,7534	56,81	-0,06	12,15	12,12	0,03	1083,74	1075,122	8,62	56,39	56,39	0,00	21,1	21,09	0,01	21,5	21,57	-0,07
33,51	65286,43	65270,78	15,65	56,7519	56,81	-0,06	12,24	12,21	0,03	1083,74	1074,146	9,59	56,39	56,39	0,00	21,1	21,14	-0,04	21,6	21,62	-0,02
33,76	65564,16	65545,86	18,30	56,7504	56,81	-0,06	12,33	12,3	0,03	1083,74	1073,171	10,57	56,39	56,39	0,00	21,2	21,19	0,01	21,6	21,67	-0,07
34,01	65841,84	65820,65	21,19	56,7489	56,81	-0,06	12,42	12,39	0,03	1082,86	1071,22	11,64	56,39	56,39	0,00	21,2	21,24	-0,04	21,7	21,71	-0,01
34,26	66118,83	66094,64	24,19	56,7473	56,8	-0,05	12,51	12,48	0,03	1079,09	1066,341	12,75	56,39	56,39	0,00	21,3	21,29	0,01	21,7	21,76	-0,06
34,51	66394,72	66367,28	27,44	56,7458	56,8	-0,05	12,6	12,57	0,03	1074	1060,488	13,51	56,39	56,39	0,00	21,3	21,33	-0,03	21,8	21,8	0,00
34,76	66669,22	66638,31	30,91	56,7444	56,8	-0,06	12,69	12,66	0,03	1068,18	1053,659	14,52	56,39	56,39	0,00	21,3	21,38	-0,08	21,8	21,85	-0,05
35,01	66942,11	66907,57	34,54	56,7429	56,8	-0,06	12,79	12,75	0,04	1062,02	1046,829	15,19	56,39	56,39	0,00	21,4	21,64	-0,24	21,9	22,3	-0,40
35,26	68009,11	68013,57	-4,46	56,7375	56,79	-0,05	13,14	13,11	0,03	4751,39	4756,098	-4,71	56,39	56,39	0,00	41,3	41,28	0,02	42,6	42,65	-0,05
35,51	69225,95	69231,52	-5,57	56,7315	56,78	-0,05	13,53	13,5	0,03	4745,43	4750,244	-4,81	56,39	56,39	0,00	41,1	41,17	-0,07	42,5	42,51	-0,01
35,76	70441,3	70448,02	-6,72	56,7256	56,78	-0,05	13,91	13,89	0,02	4740,06	4744,39	-4,33	56,39	56,39	0,00	41	41,07	-0,07	42,4	42,39	0,01

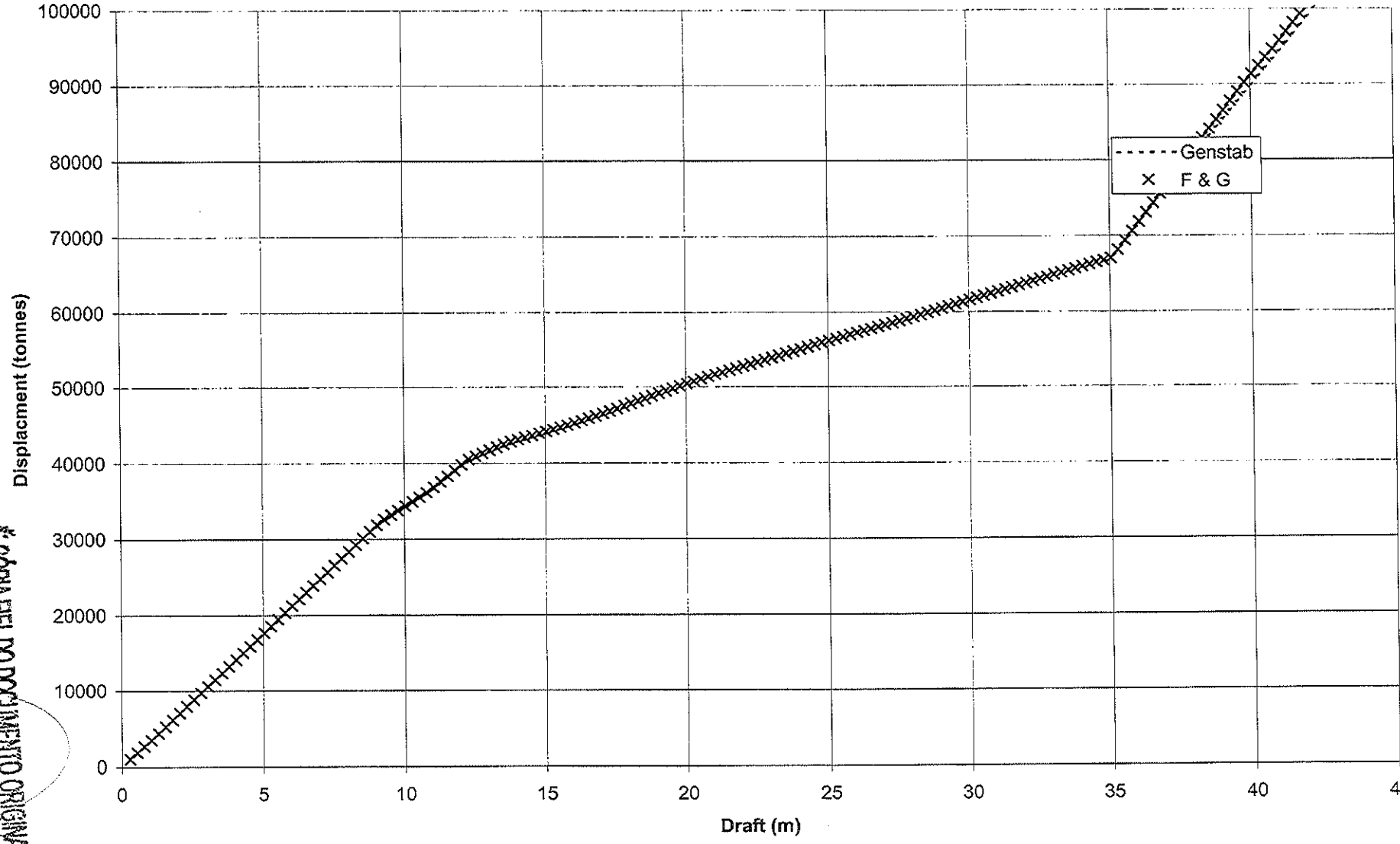
É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINTO LEITÃO
DESENHISTA
MATRÍCULA 2000188

REGISTRO MARÍTIMO

DRAFT	DISPLACEMENT (t)			LCB (m) from FP			VCB (m) ABL			WPA (m^2)			LCF (m) from FP			KMT (m)			KML (m)		
	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error	Genstab	F & G	error
36,01	71655,33	71663,3	-7,97	56,7199	56,77	-0,05	14,28	14,26	0,02	4735,77	4740,488	-4,72	56,39	56,39	0,00	41	40,97	0,03	42,3	42,27	0,03
36,26	72868,56	72877,81	-9,25	56,7144	56,76	-0,05	14,64	14,62	0,02	4733,88	4739,512	-5,63	56,39	56,39	0,00	40,9	40,89	0,01	42,2	42,17	0,03
36,51	74081,63	74092,2	-10,57	56,7091	56,76	-0,05	15	14,98	0,02	4733,88	4739,512	-5,63	56,39	56,39	0,00	40,8	40,82	-0,02	42,1	42,07	0,03
36,76	75234,83	75317,34	-82,51	56,7042	56,75	-0,05	15,33	15,33	0,00	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,6	40,75	-0,15	41,8	41,99	-0,19
37,01	76364,75	76546,32	-181,57	56,6996	56,75	-0,05	15,65	15,68	-0,03	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,5	40,69	-0,19	41,7	41,91	-0,21
37,26	77494,78	77775,31	-280,53	56,6951	56,74	-0,04	15,96	16,02	-0,06	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,5	40,64	-0,14	41,7	41,83	-0,13
37,51	78624,56	79004,3	-379,74	56,6907	56,74	-0,05	16,27	16,35	-0,08	4409,55	4796,098	-386,55	56,39	56,39	0,00	40,4	40,58	-0,18	41,6	41,76	-0,16
37,76	79754,58	80233,29	-478,71	56,6865	56,73	-0,04	16,58	16,68	-0,10	4409,55	4796,098	-386,55	56,39	56,39	0,00	40,4	40,54	-0,14	41,6	41,7	-0,10
38,01	80884,58	81462,27	-577,69	56,6824	56,73	-0,05	16,87	17	-0,13	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,4	40,50	-0,10	41,5	41,64	-0,14
38,26	82014,81	82691,26	-676,45	56,6786	56,72	-0,04	17,17	17,31	-0,14	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,3	40,46	-0,16	41,5	41,59	-0,09
38,51	83144,7	83920,25	-775,55	56,6746	56,72	-0,05	17,45	17,62	-0,17	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,3	40,43	-0,13	41,4	41,54	-0,14
38,76	84274,73	85149,23	-874,50	56,6708	56,71	-0,04	17,74	17,92	-0,18	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,3	40,41	-0,11	41,4	41,5	-0,10
39,01	85404,75	86378,22	-973,47	56,6671	56,71	-0,04	18,02	18,22	-0,20	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,3	40,39	-0,09	41,4	41,46	-0,06
39,26	86534,75	87607,21	-1072,46	56,6635	56,7	-0,04	18,29	18,51	-0,22	4409,54	4796,098	-386,56	56,39	56,39	0,00	40,2	40,37	-0,17	41,3	41,43	-0,13
39,51	87664,67	88836,19	-1171,52	56,66	56,7	-0,04	18,57	18,8	-0,23	4409,55	4796,098	-386,55	56,39	56,39	0,00	40,2	40,36	-0,16	41,3	41,4	-0,10
39,76	88791,42	90018,07	-1226,65	56,6566	56,69	-0,03	18,83	19,08	-0,25	4387,06	4420,488	-33,43	56,39	56,39	0,00	39,9	36,24	3,66	41,2	37,99	3,21
40,01	89915,52	91150,73	-1235,21	56,6533	56,69	-0,04	19,1	19,33	-0,23	4387,06	4420,488	-33,43	56,39	56,39	0,00	39,9	36,28	3,62	41,2	38,01	3,19
40,26	91039,61	92283,4	-1243,79	56,65	56,69	-0,04	19,36	19,59	-0,23	4387,06	4420,488	-33,43	56,39	56,39	0,00	39,9	36,33	3,57	41,1	38,04	3,06
40,51	92163,92	93416,06	-1252,14	56,6469	56,68	-0,03	19,61	19,84	-0,23	4387,05	4420,488	-33,44	56,39	56,39	0,00	40	36,38	3,62	41,1	38,07	3,03
40,76	93288,08	94548,73	-1260,65	56,6438	56,68	-0,04	19,87	20,09	-0,22	4387,06	4420,488	-33,43	56,39	56,39	0,00	40	36,43	3,57	41,1	38,1	3,00
41,01	94412,25	95681,39	-1269,14	56,6408	56,68	-0,04	20,12	20,34	-0,22	4387,05	4420,488	-33,44	56,39	56,39	0,00	40	36,48	3,52	41,1	38,13	2,97
41,26	95536,36	96814,06	-1277,70	56,6378	56,67	-0,03	20,36	20,58	-0,22	4387,05	4420,488	-33,44	56,39	56,39	0,00	40	36,54	3,46	41,1	38,16	2,94
41,51	96660,61	97946,72	-1286,11	56,6349	56,67	-0,04	20,61	20,82	-0,21	4387,06	4420,488	-33,43	56,39	56,39	0,00	40	36,59	3,41	41,1	38,2	2,90
41,76	97784,81	99079,38	-1294,57	56,6322	56,67	-0,04	20,85	21,06	-0,21	4387,06	4420,488	-33,43	56,39	56,39	0,00	40	36,65	3,35	41,1	38,24	2,86
42,01	98908,95	100212,1	-1303,10	56,6294	56,66	-0,03	21,09	21,29	-0,20	4387,05	4420,488	-33,44	56,39	56,39	0,00	40	36,71	3,29	41,1	28,28	12,82
42,26	100033,2	101344,7	-1311,55	56,6267	56,66	-0,03	21,33	21,53	-0,20	4387,05	4420,488	-33,44	56,39	56,39	0,00	40,1	36,77	3,33	41,2	28,33	12,87
42,51	101157,6	102477,4	-1319,82	56,6242	56,66	-0,04	21,56	21,76	-0,20	4387,05	4420,488	-33,44	56,39	56,39	0,00	40,1	36,83	3,27	41,2	38,37	2,83
42,76	101877,1	103507,3	-1630,20	56,6226	56,65	-0,03	21,71	21,97	-0,26	0			56,39	56,39	0,00	21,7	26,10	-4,40	21,7	33,7	-12,00

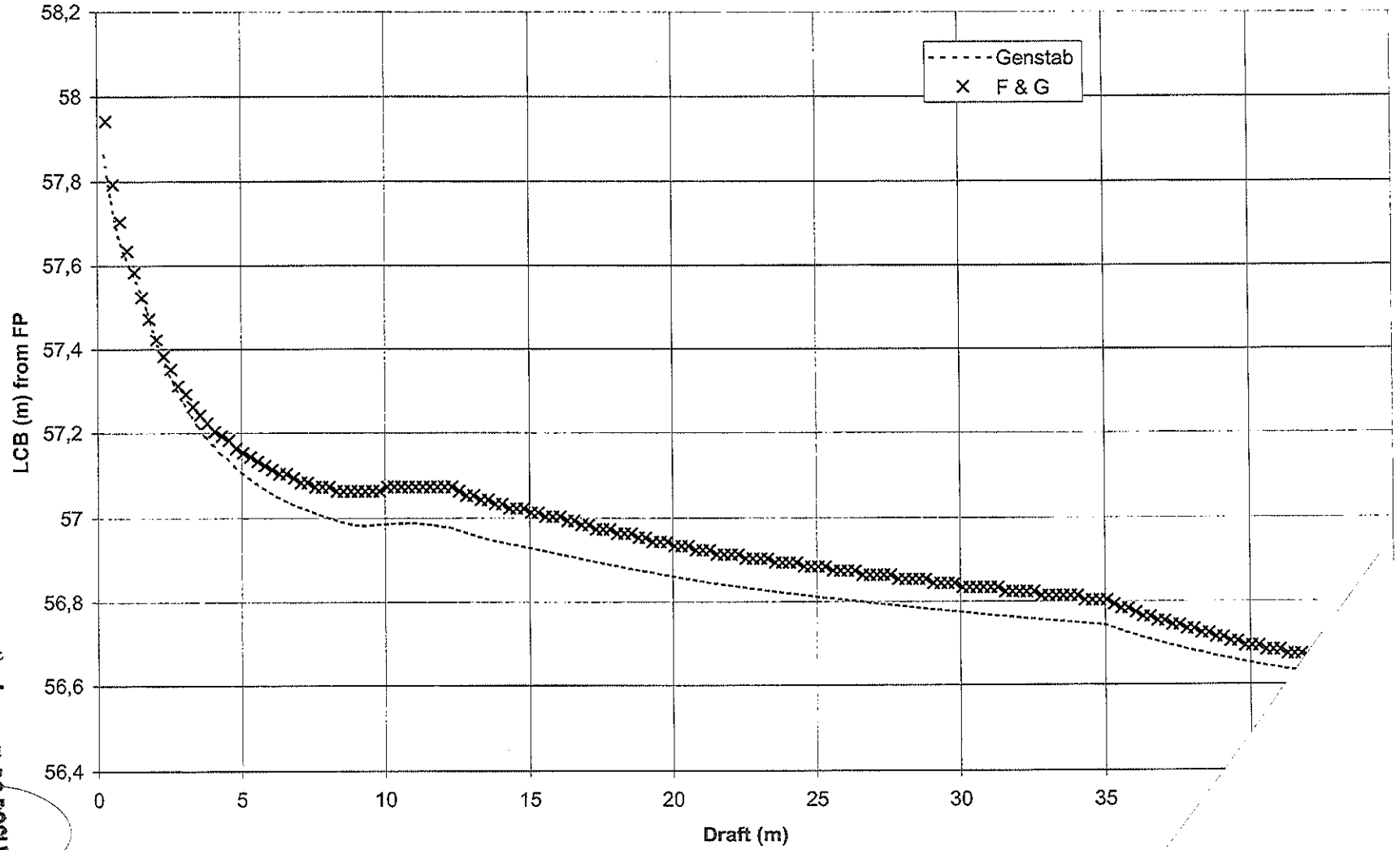
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P-36 Hydrostatics - Displacement



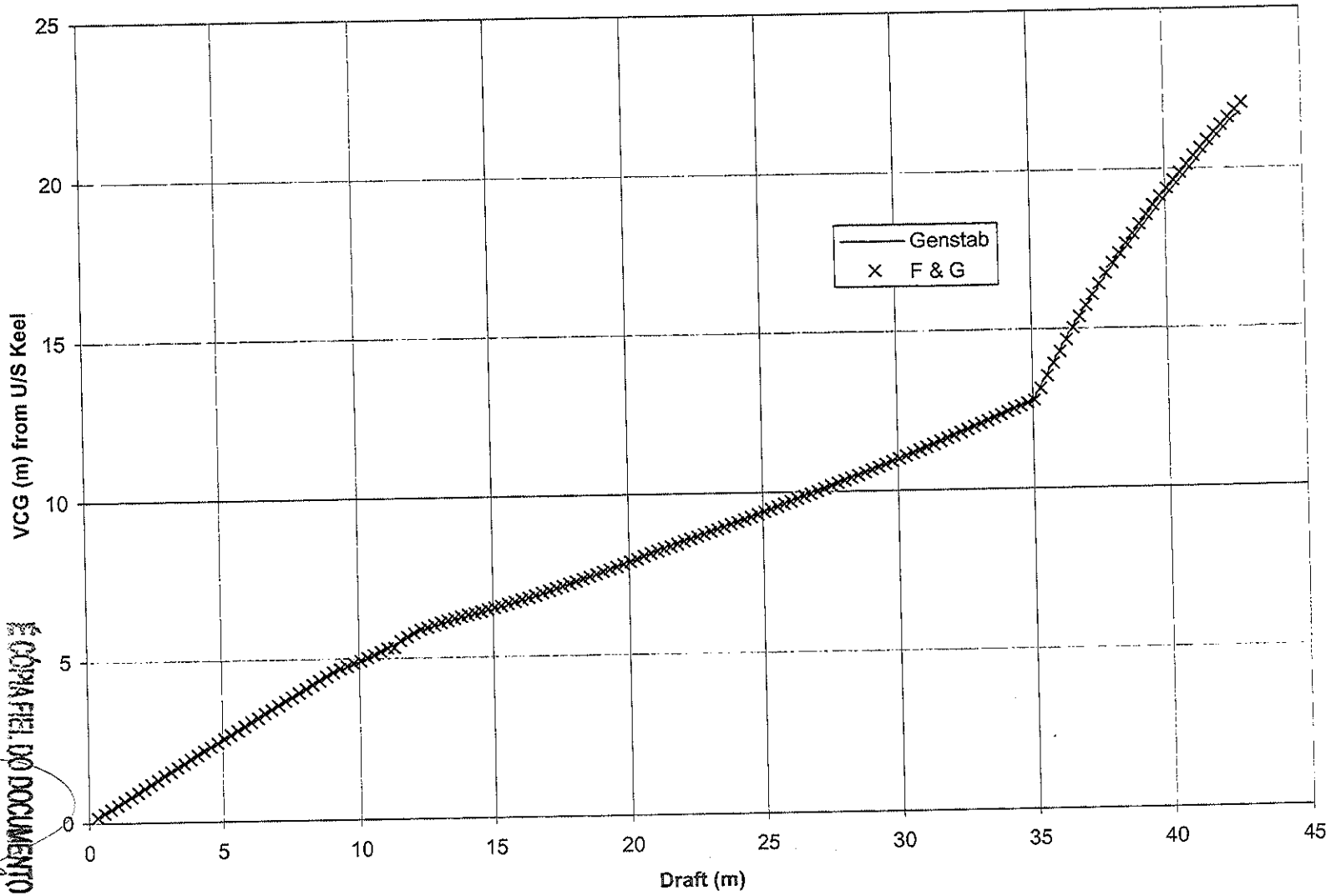
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P-36 Hydrostatics - LCB



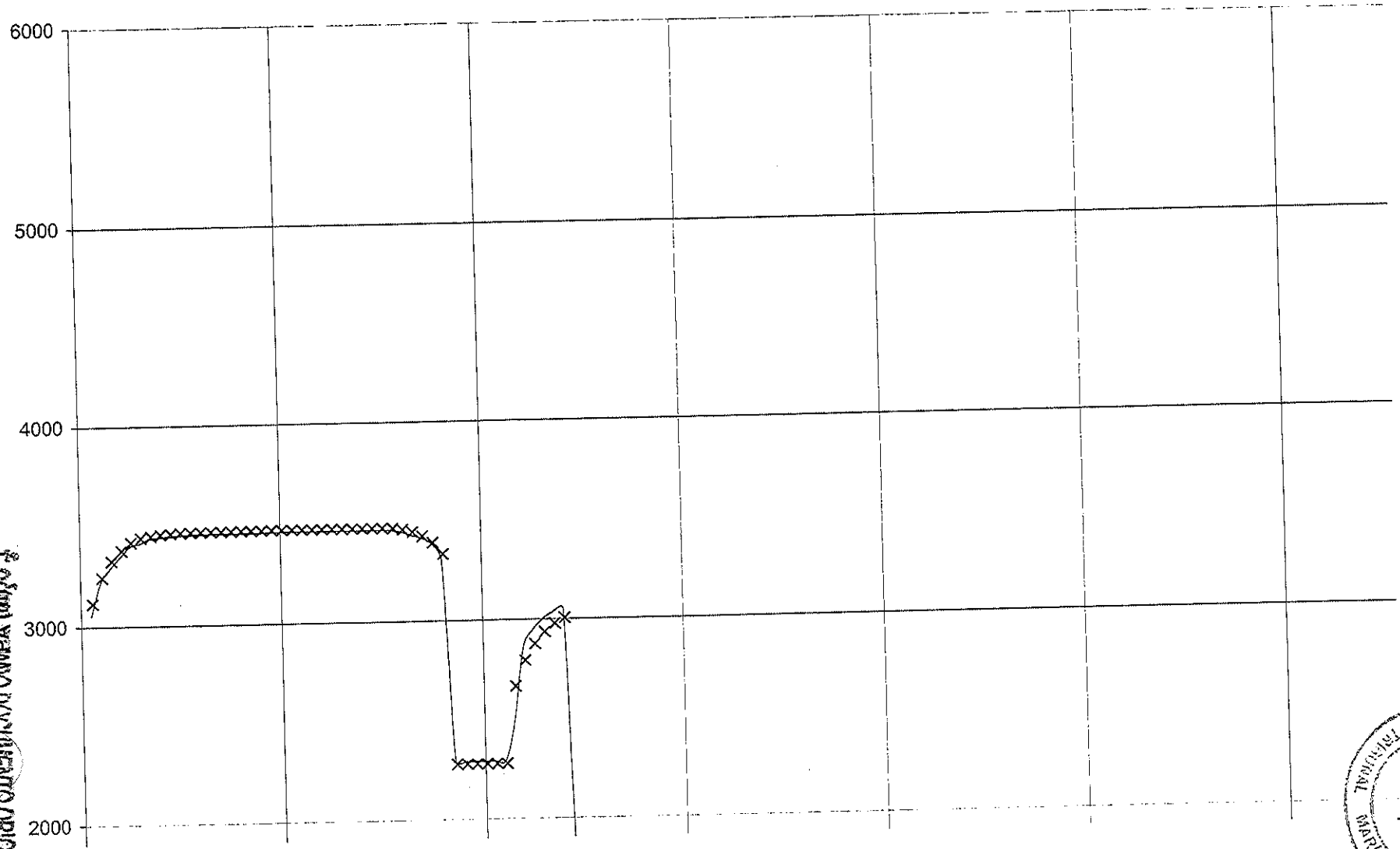
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P-36 Hydrostatics



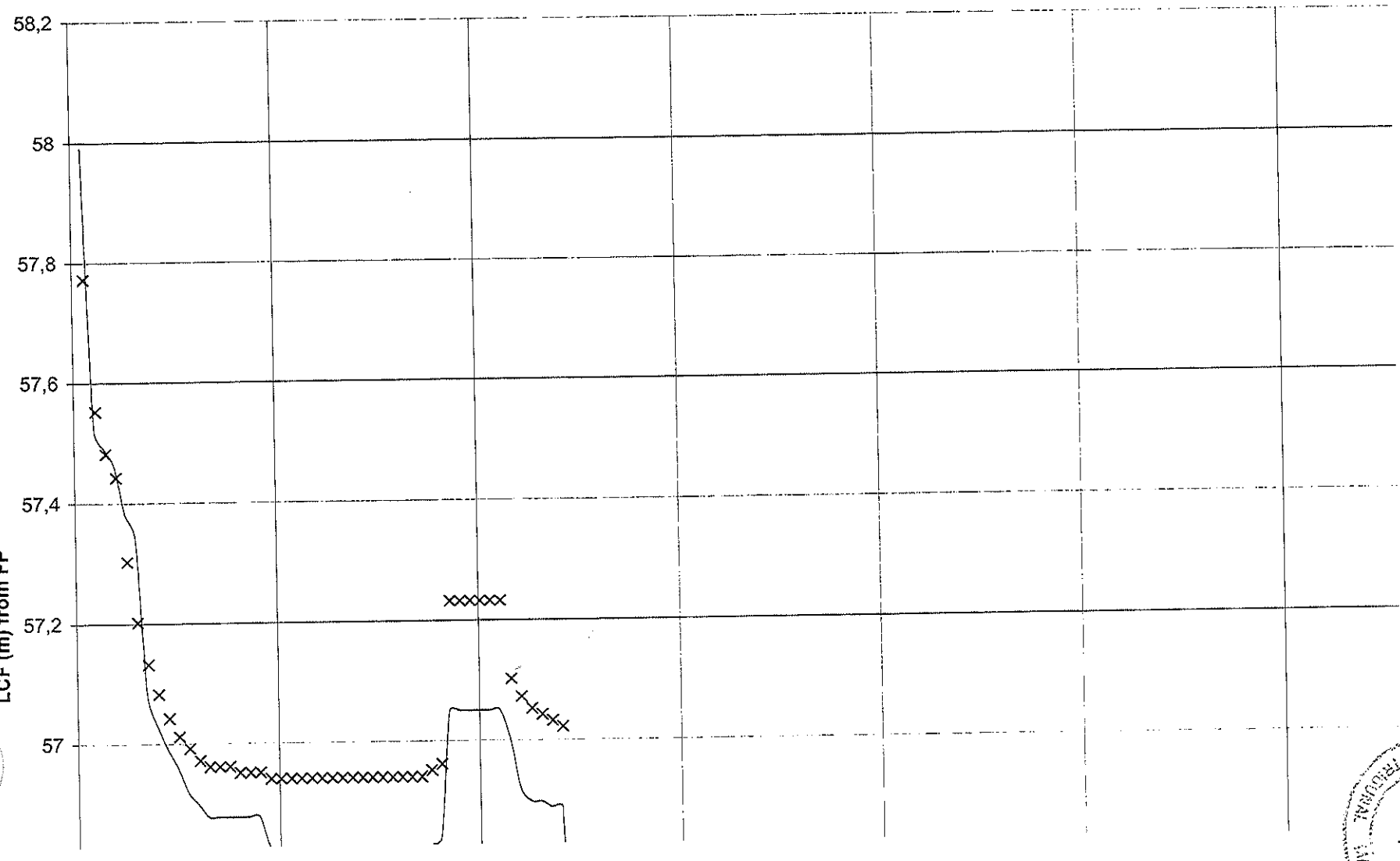
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P-36 Hydrostatics



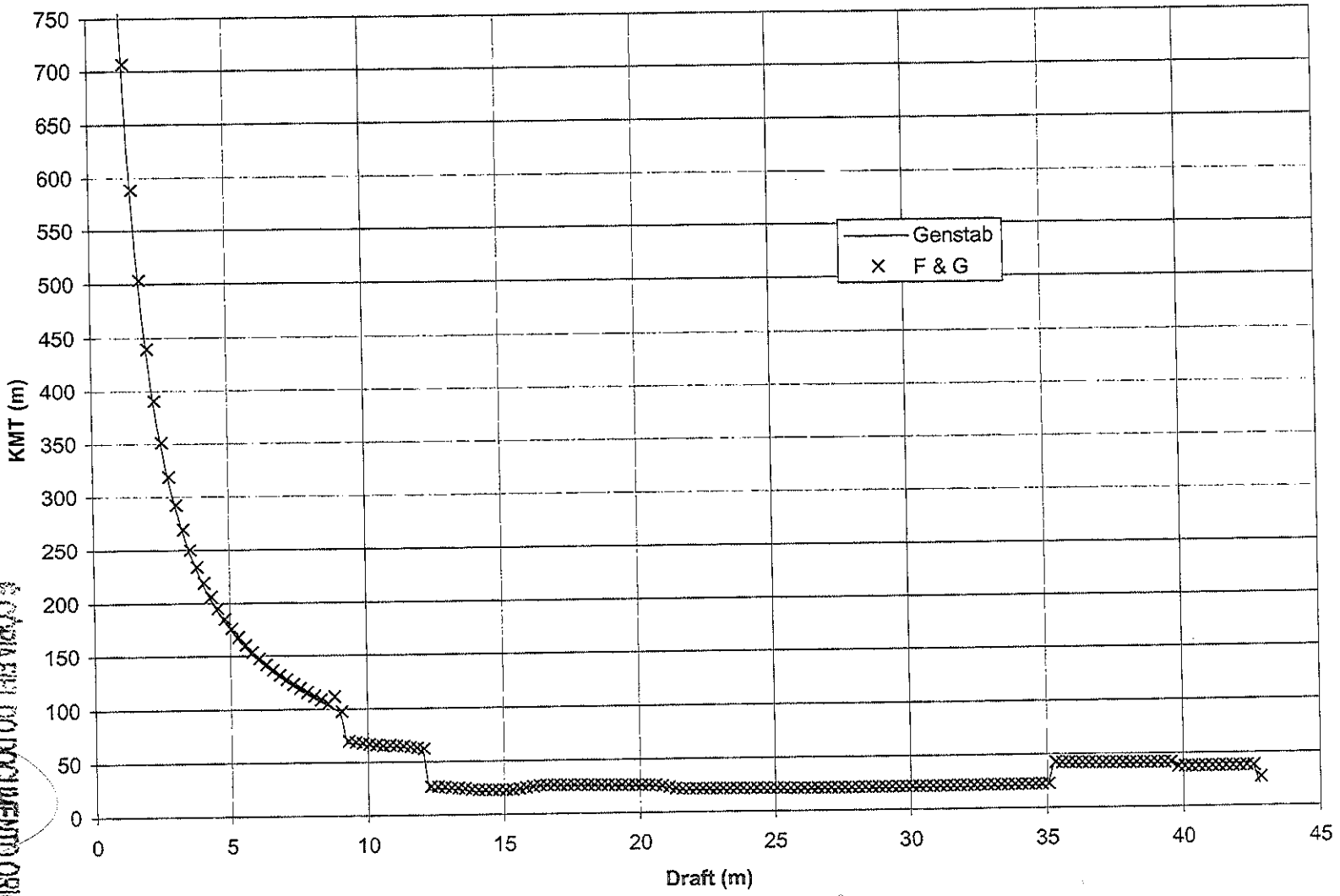
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P-36 Hydrostatics



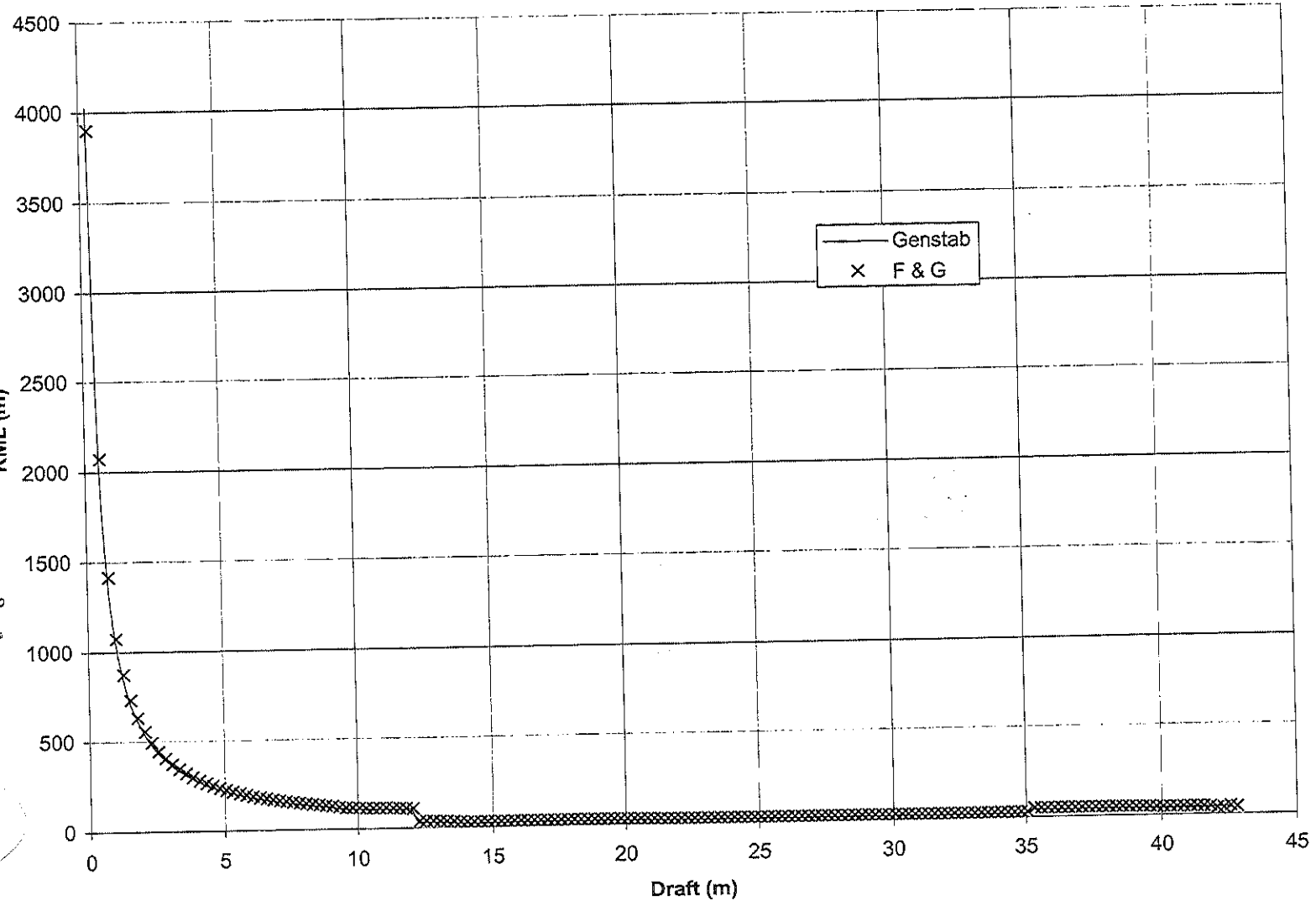
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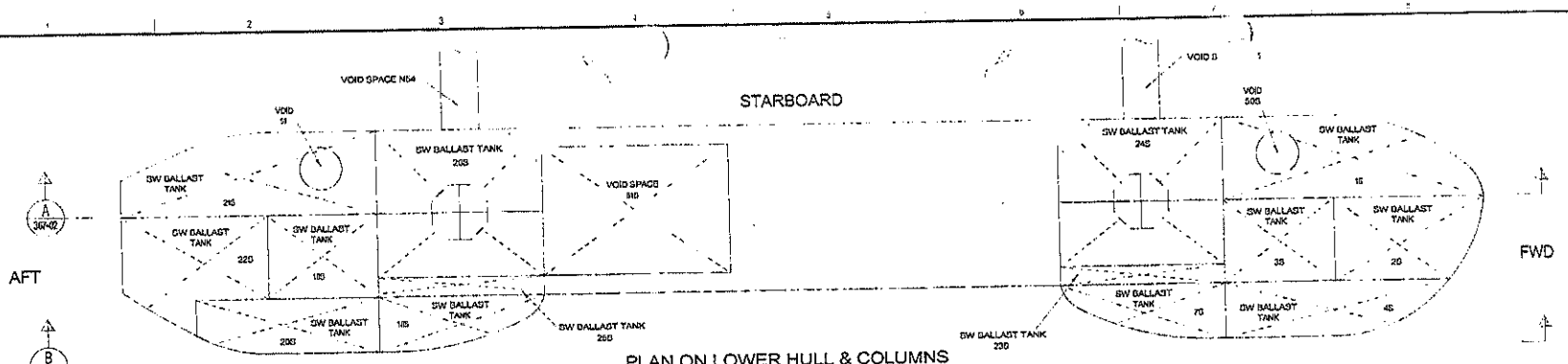
P-36 Hydrostatics



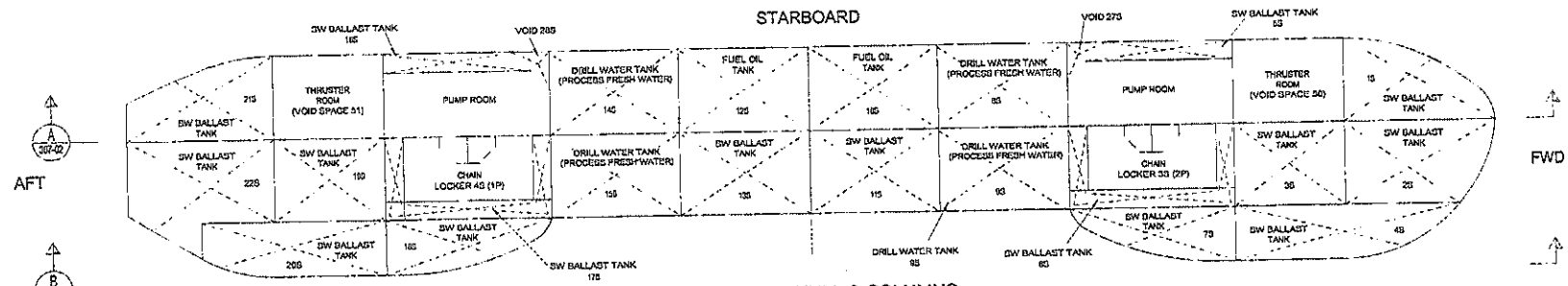
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P-36 Hydrostatics

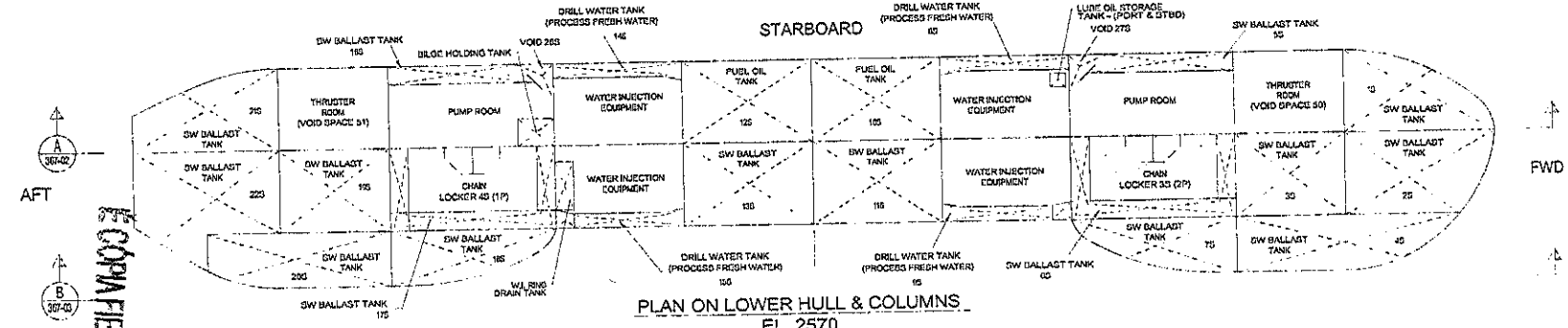




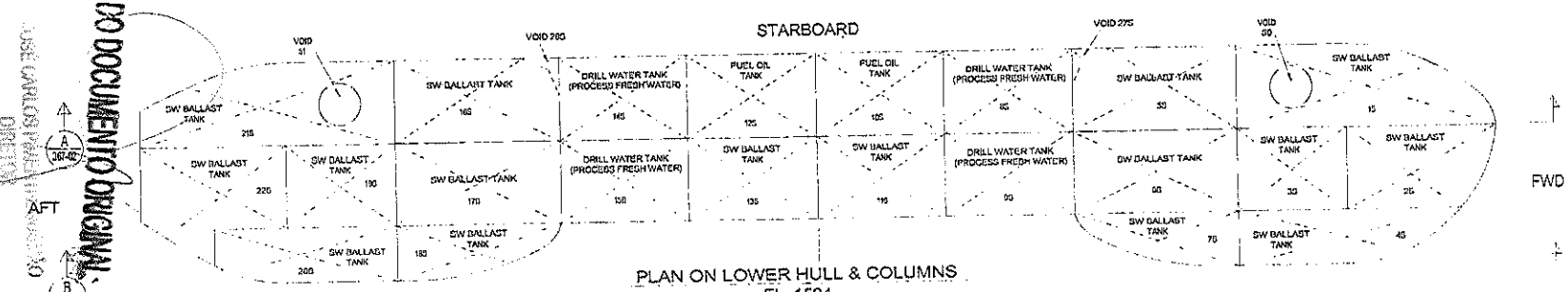
PLAN ON LOWER HULL & COLUMNS
EL. 12192



PLAN ON LOWER HULL & COLUMNS
EL. 9144

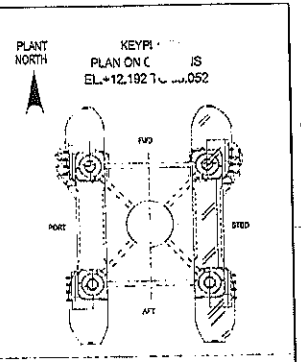


PLAN ON LOWER HULL & COLUMNS
EL. 2570



PLAN ON LOWER HULL & COLUMNS
EL. 1524

PETROBRAS
P-36 COPA FIELD DO DOCUMENTO ORIGINAL
DIVISÃO DE ENGENHARIA MARÍTIMA



DIVISÃO DE ENGENHARIA MARÍTIMA

DE-3010/38-1320-962-N8D-367-02	G.A. of PONTOON TANKS & SPACES SHT-2
DE-3010/38-1320-962-N8D-367-03	G.A. of PONTOON TANKS & SPACES FLOW SHT-3
DE-3010/38-1320-962-N8D-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010/38-1320-962-N8D-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT-5
DE-3010/38-1320-962-N8D-367-06	TANK CAPACITY TABLE SHT-1
DE-3010/38-1320-962-N8D-367-07	TANK CAPACITY TABLE SHT-2
DE-3010/38-1320-962-N8D-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010/38-1320-962-N8D-367-09	CAPACITY PLAN - TANK TOP TO UPPER MAIN DECK
DE-3010/38-1320-962-N8D-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010/38-1320-962-N8D-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010/38-1320-962-N8D-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010/38-1320-962-N8D-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER — DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
1	22/11/99	AS BUILT	SCE	MSC	MSC	
D	01/06/99	REVISED AFC	SCE	MSC	MSC	
C	29/01/99	AFC	SCE	MSC	AT	
B	12/12/97	REVISED AFD	SCE	MSC	AT	
A	24/10/97	AFD	SCE	MDL	AT	
0	11/JUN/97	IDC	RHS	MSC	AT	

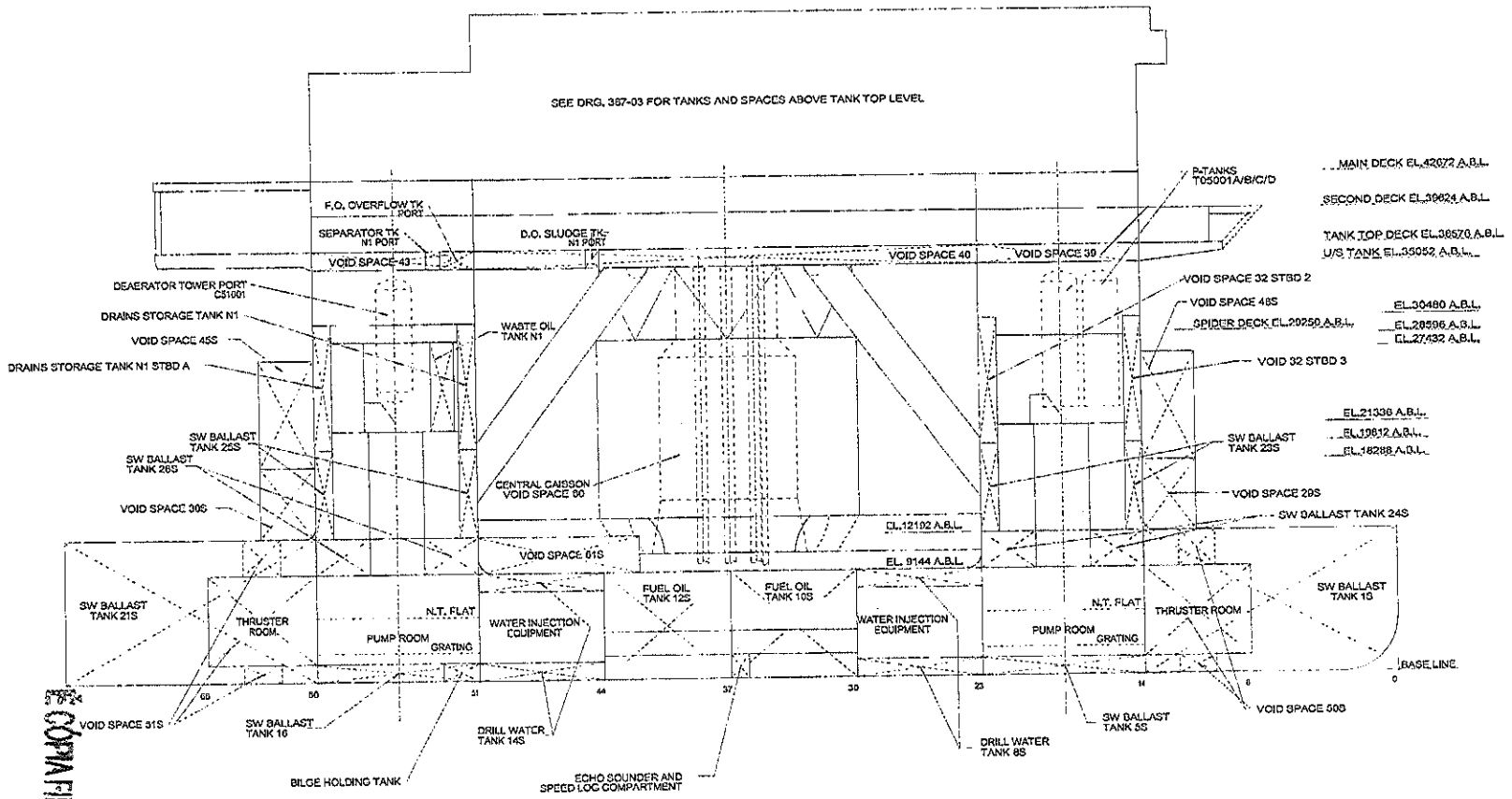
PETROBRAS — P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

NOBLE DENTON — Petromec — AMEC

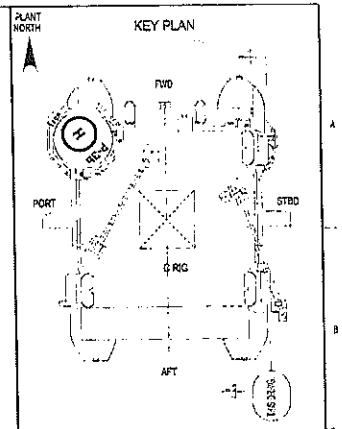
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P36 RONCADOR
G.A. of PONTOON TANKS & SPACES PLANS SHT-4

DRAWN DATE: SCE/DEC.97
CHECKED DATE: MSC/NOV 99
APPROVED DATE: MSC/NOV 99
SCALE: 1:200 (A1)

DE-3010/38-1320-962-N8D-367-01 — REV E



SECTION A-A
STARBOARD SIDE (PORT SIDE SIMILAR)



DE-3010.38-1320-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-NBD-367-02	G.A. of PONTOON TANKS & SPACES ELEVN SHT.2
DE-3010.38-1320-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-NBD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.4
DE-3010.38-1320-NBD-367-06	TANK CAPACITY TABLE SHT. 1
DE-3010.38-1320-NBD-367-07	TANK CAPACITY TABLE SHT. 2
DE-3010.38-1320-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-NBD-367-09	CAPACITY PLAN - TANK TOP TO MAIN DECK
DE-3010.38-1320-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

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D	01.09.99	REVISED A.F.C.	SCE	MSC	MSC	
C	05.03.99	A.F.C.	SCE	MSC	AT	
B	13.12.01	REVISED AFD	SCE	MSC	AT	
A	20.10.07	AFD	SCE	MSC	AT	
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BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2156

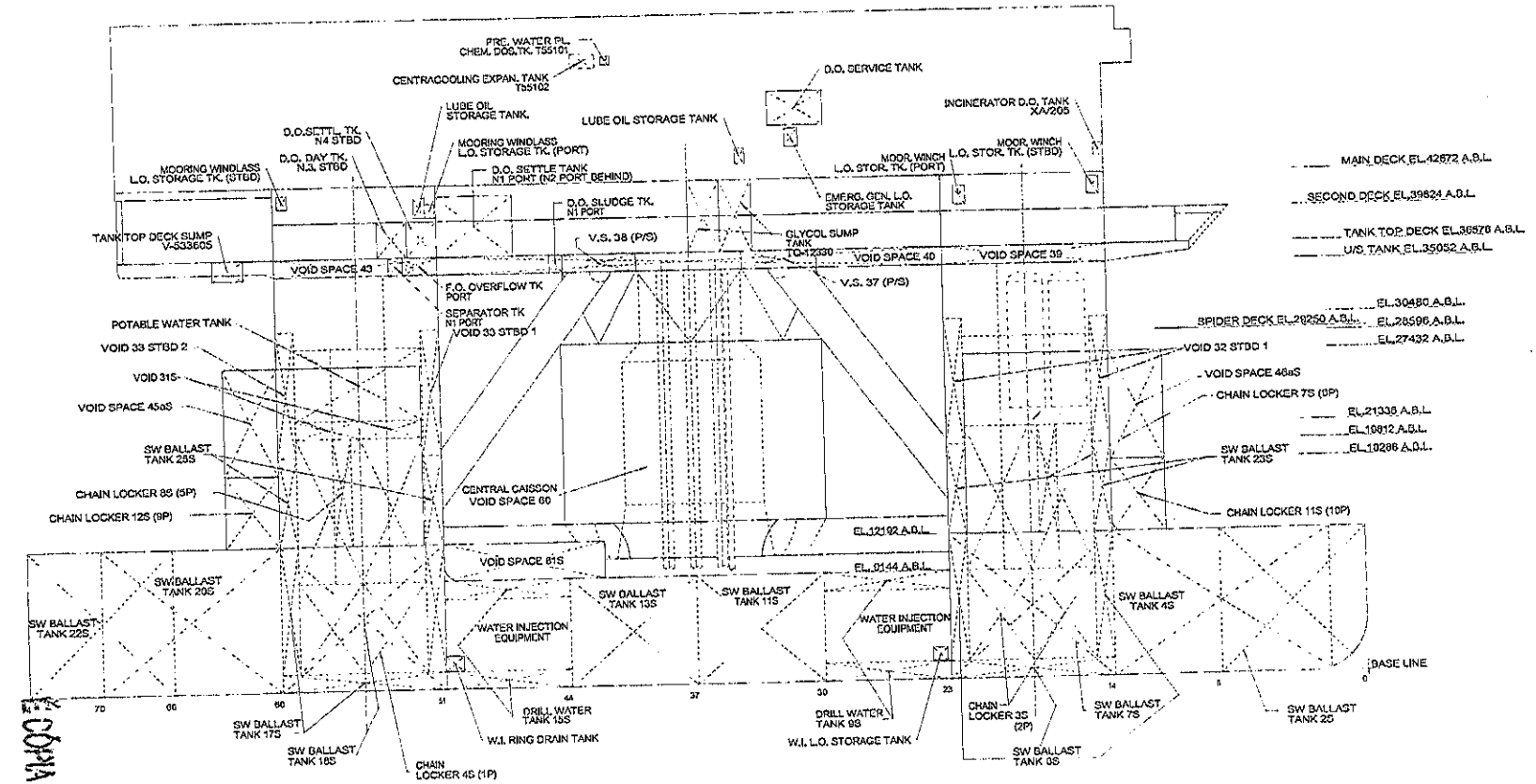
MOBLE DENTON | Petrobras | AMEC

TITLE: P36 RONCADOR G.A. of PONTOON TANKS &SPACES ELEVATION SHT.2

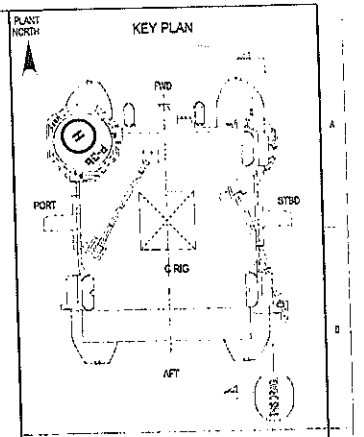
DRAWN DATE: SCE/DEC.07
CHECKED DATE: MSC/NOV 99
APPROVED DATE: MSC/NOV 99
SCALE: 1:200 (A1)

DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-02 REV: E

CONTROLLED DOCUMENT
ORIGINAL
PROPRIETARY INFORMATION
THIS DRAWING IS THE PROPERTY OF BRASOIL AND IS NOT TO BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION



ELEVATION B-B
STARBOARD SIDE (PORT SIDE MIRROR IMAGE)



TRIBUNAL MARITIMO
VISADO

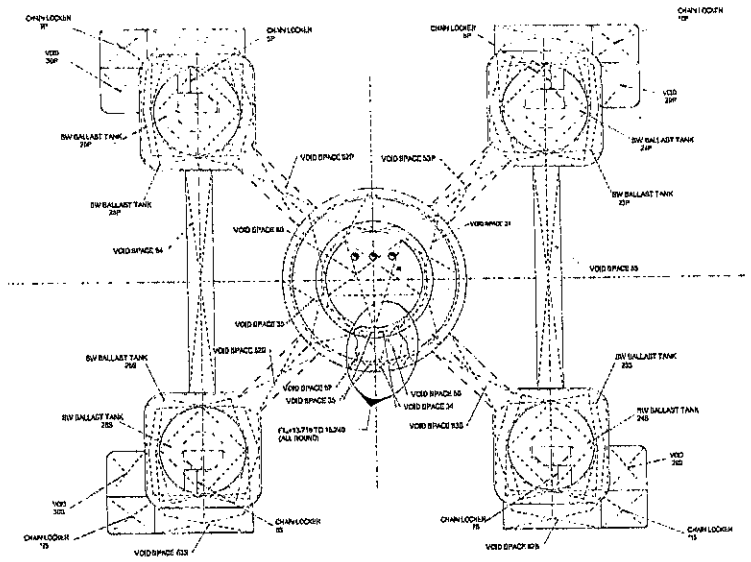
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DE-3010.38-1320-962-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES CUT-OUT-2
DE-3010.38-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-962-NBD-367-05	G.A of PONTOON TANKS & SPACES CAISSON EL SHT.5
DE-3010.38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT.1
DE-3010.38-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT.2
DE-3010.38-1320-962-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO U/S MAIN DECK
DE-3010.38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHK'D BY	APPD BY	APPD CLIENT
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D	01.09.99	REVISED AFC	SCE	MSE	MSE	
C	29.01.99	AFC	SCE	MSE	AT	
B	17.12.98	REVISED AFD	SCE	MSE	AT	
A	29.10.97	AFD	SCE	MSE	AT	
0	11.9.97	IDC	RHS	MSE	AT	

PETROBRAS / BRASOIL	P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150
NOBLE DENTON / Petromec / ABEC	
TITLE	P36 RONCADOR G.A. of PONTOON TANKS & SPACES ELEVATION SHT.3
DRAWN DATE	SCE/OCT.97
CHECKED DATE	MSE/NOV 99
APPROVED DATE	MSE/NOV 99
SCALE	1:200 (A1)
DRAWING NUMBER	DE-3010.38-1320-962-NBD-367-03
REV	E

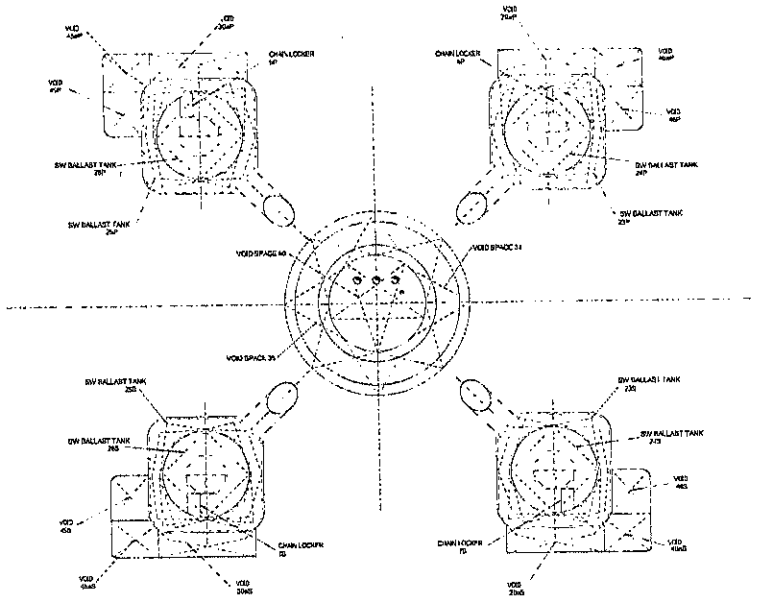
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AFT

PLAN ON COLUMNS, BRACES AND CENTRE CAISSON
ELEVATION BETWEEN 12192 & 18288 ABL

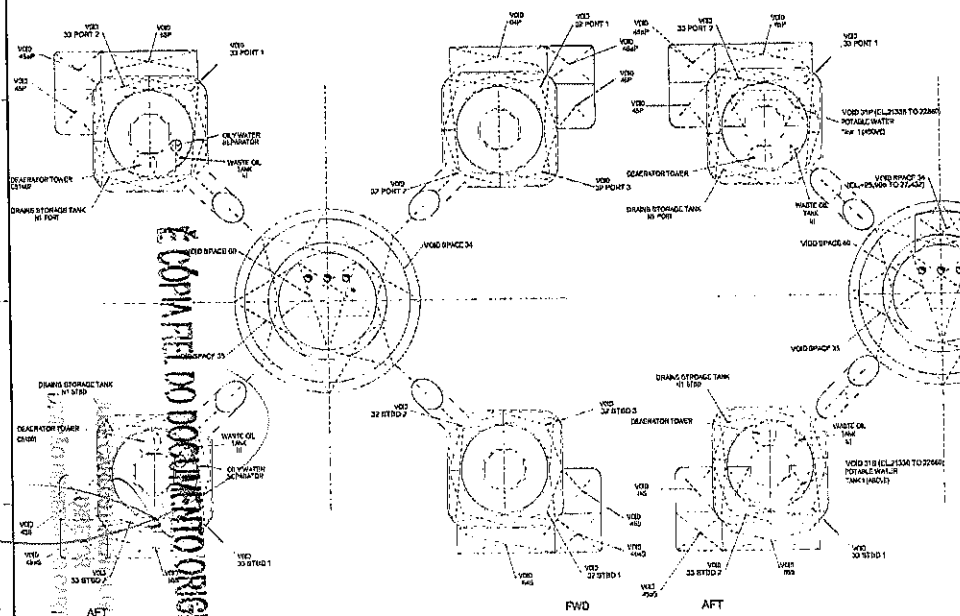
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AFT

PLAN ON COLUMNS, BRACES AND CENTRE CAISSON
ELEVATION BETWEEN 18288 & 19812 ABL

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AFT

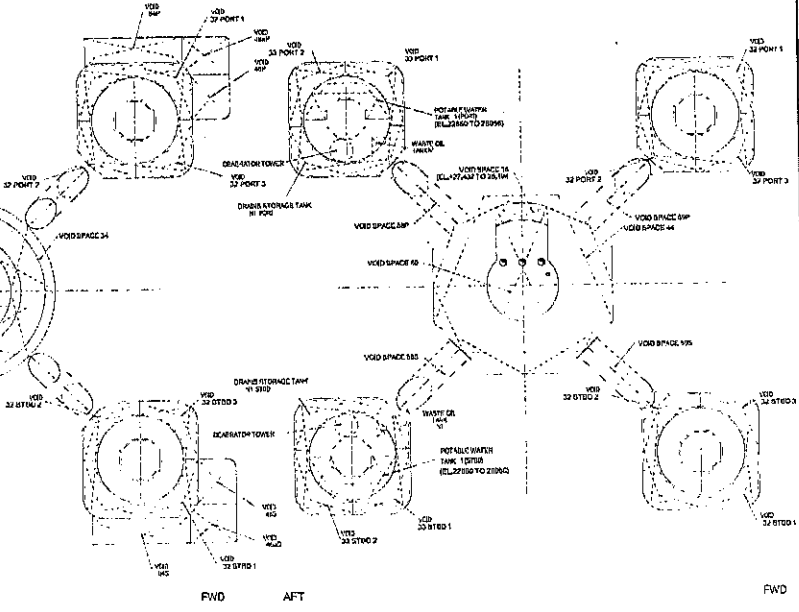
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ELEVATION BETWEEN 19812 & 21336 ABL

FWD

AFT

PLAN ON COLUMNS, BRACES AND CENTRE CAISSON
ELEVATION BETWEEN 21336 & 27432 ABL

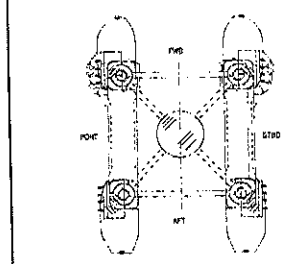
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AFT

PLAN ON COLUMNS, BRACES AND CENTRE CAISSON
ELEVATION BETWEEN 27432 & 35052 ABL

FWD



NOTES
1. FOR ELEVATIONS OF TANKS REFER TO SHEETS 2&3.

A COPIA PERI DO DOCUMENTO ORIGINALE
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ORIGINAL

DE-3010,38-1320-GAN-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010,38-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES ELEV. SHT.2
DE-3010,38-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES ELEV. SHT.3
DE-3010,38-1320-962-ABD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DE-3010,38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT. 1
DE-3010,38-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT. 2
DE-3010,38-1320-962-ABD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010,38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO U/S MAIN DECK
DE-3010,38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010,38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010,38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT P.W.M. TOP
DE-3010,38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT 02 (CEN.) DECK
DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWINGS

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B	01.03.99	REVISED AFD	SCC	MSC	AT	
C	09.03.99	AFC	SCC	MSC	AT	
B	10.12.97	REVISED AFD	SCC	MSC	AT	
A	28.10.97	AFD	SCC	MSC	AT	
0	11.8.97	IDC	MHS	MSC	AT	

BRABOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

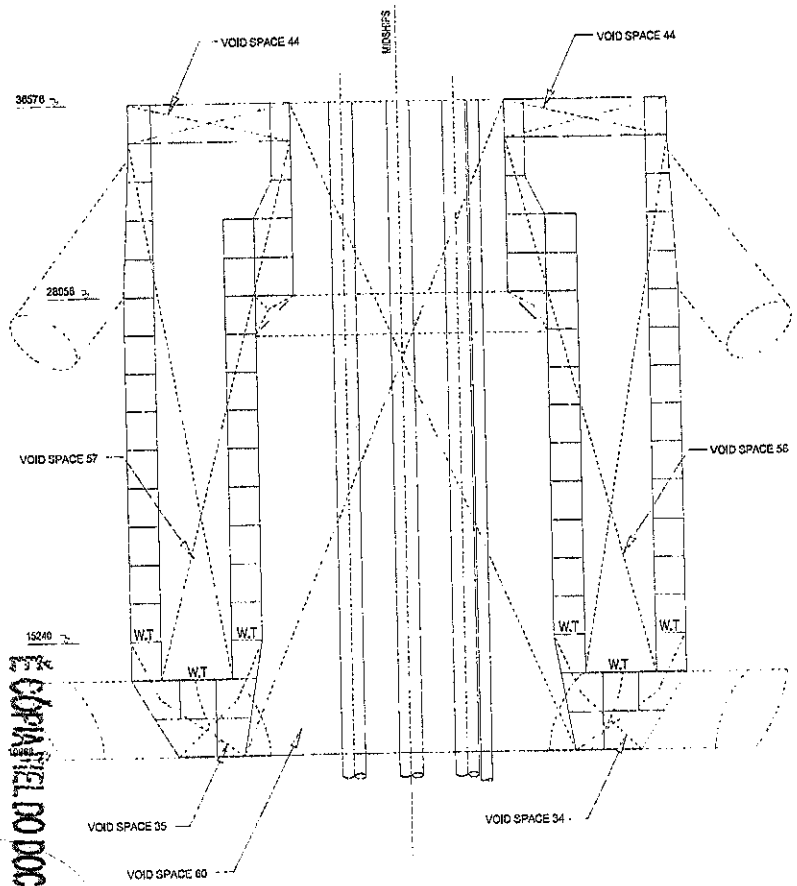
NOBLE DENTON | Petrobras | ABS

TITLE

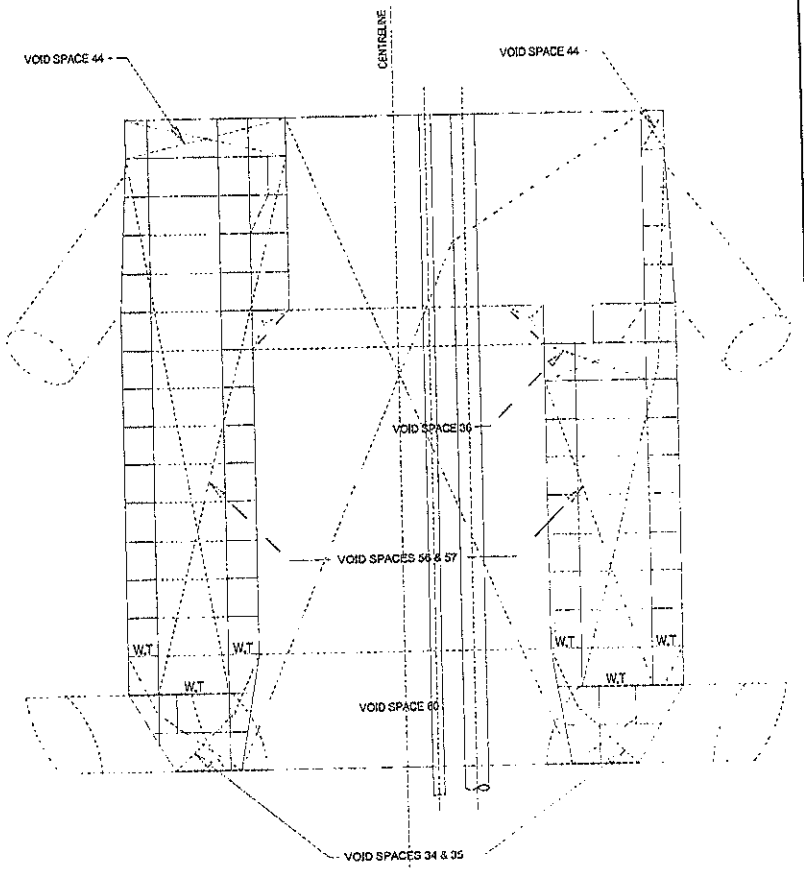
P36 RONCADOR
G.A. of PONTOON
TANKS & SPACES
COLUMN PLANS SHT.4

DRAWN BY: SCC/DEC.97
CHECKED: MSC/02 OCT.99
APPROVED: AT/02 OCT.99
SCALE: N.T.S.

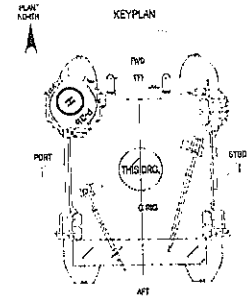
DRAWING NUMBER: DE-3010,38-1320-962-NBD-367-04

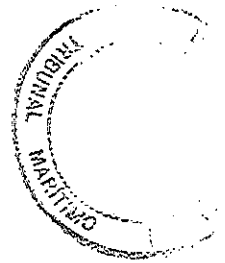


CENTRAL CAISSON LKG. TO PORT



CENTRAL CAISSON LKG. AFT





DE-3010.38-1320-960-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-960-NBD-367-02	G.A. of PONTOON TANKS & SPACES CSTY. SHT.2
DE-3010.38-1320-960-NBD-367-03	G.A. of PONTOON TANKS & SPACES CSTY. SHT.3
DE-3010.38-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-962-NBD-367-05	TANK CAPACITY TABLE SHT. 1
DE-3010.38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT. 2
DE-3010.38-1320-962-NBD-367-07	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-962-NBD-367-08	CAPACITY PLAN - TANK TOP TO 1st MAIN DECK
DE-3010.38-1320-962-NBD-367-09	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-962-NBD-367-10	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT SECOND DECK
DE-3010.38-1320-962-NBD-367-13	

DRAWING NUMBER — DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
E	02.10.00	AS BUILT	SCE	MSE	AT	
D	04.08.00	REVISED AFC	SCE	MSE	AT	
C	20.01.00	AFC	SCE	MSE	AT	
B	12.12.07	AFD	SCE	MSE	AT	
A	26.11.01	AFD	SCE	CHL	AT	
0	26.10.07	IDC	SCE	MSE	AT	

PROJECT: P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

PETROBRAS | NOBLE DENTON | Petronas | AMEC

TITLE: CENTRAL CAISSON CAPACITY TANK LAYOUT

DRAWN DATE: SCE/DEC. 07
CHECKED DATE: MSE/OCT. 09
APPROVED DATE: AT/OCT. 09
SCALE: 1:100 (A1)
REV: E
DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-05

USE ONLY AS CONTROLLED COPY
UNCONTROLLED COPY WHEN PRINTED
CONTROLLED DOCUMENT TO ORIGINAL

Potable Water Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Pot Water Tk	1P	104.0	104.0	1.000	84.58	-20.99	25.90	55 & 56
Pot Water Tk	1S	104.0	104.0	1.000	84.58	20.99	25.90	55 & 56
Pot Water Day Tk		15.2	15.2	1.000	70.87	4.08	39.10	51 & 52
Potable Water Tanks		403.1	403.1		84.30	0.19	26.57	

Drill Water Tanks (Process FW)	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Drill Water Tanks	6P	276.5	276.5	1.000	49.25	-23.31	4.41	26 & 27
Drill Water Tanks	6S	276.5	276.5	1.000	49.25	23.31	4.41	26 & 27
Drill Water Tanks	0P	248.7	248.7	1.000	40.53	-31.35	4.38	25 & 27
Drill Water Tanks	9S	248.7	248.7	1.000	40.53	31.35	4.38	26 & 27
Drill Water Tanks	14P	272.3	272.3	1.000	72.39	-24.38	4.56	47 & 48
Drill Water Tanks	14S	272.3	272.3	1.000	72.39	24.38	4.56	47 & 48
Drill Water Tanks	15P	260.3	260.3	1.000	72.34	-30.45	4.62	47 & 48
Drill Water Tanks	15S	260.3	260.3	1.000	72.34	30.45	4.62	47 & 48
Drill Water Tanks (Process FW)		2115.5	2115.5		56.49	0.00	4.49	

Fuel Oil	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
FO Tank	10P	580.9	611.3	0.960	51.05	-23.91	4.67	33 & 34
FO Tank	10S	580.9	611.3	0.960	51.05	23.91	4.67	33 & 34
FO Tank	12P	660.1	614.7	0.960	61.72	-25.66	4.64	40 & 41
FO Tank	12S	590.1	614.7	0.960	61.72	23.92	4.64	40 & 41
FO Overflow	P	16.4	17.1	0.960	78.04	-17.79	35.81	51 & 52
FO Overflow	S	15.1	15.8	0.960	78.87	22.86	35.81	51 & 52
Fuel Oil		2585.4	2682.0		56.70	0.04	5.09	

Diesel Oils	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
DO Sludge	N1P	3.9	4.1	0.870	67.01	-16.82	35.81	44 & 45
DO Sludge	N1S	3.6	4.1	0.870	70.56	16.16	35.81	51 & 52
DO Settle	N1P	105.5	121.2	0.870	74.52	-13.90	39.38	48 & 49
DO Day Tk	N2P	110.7	127.2	0.870	74.60	-17.44	39.37	48 & 49
DO Day Tk	N3S	73.5	84.5	0.870	82.01	16.02	38.10	53 & 54
DO Settle	N4S	73.5	84.5	0.870	79.15	15.62	38.10	51 & 52
DO Service		11.2	12.9	0.870	46.01	-21.15	47.01	31 & 32
Diesel Oils		381.0	341.2		76.08	-3.56	39.05	

Lub Oils	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Drains Storage Tank Port	N1P	406.3	451.4	0.900	84.85	-22.04	26.23	55 & 56
Drains Storage Tank Stbd	N1S	406.3	451.4	0.900	84.85	22.04	26.23	55 & 56
Waste Oil	N1P	19.2	19.2	1.000	69.72	-24.55	25.15	52 & 53
Waste Oil	N1S	19.2	19.2	1.000	69.72	24.86	25.15	52 & 53
Air Compressors LO Storage	T05101	0.8	0.9	0.900	73.47	-1.35	40.72	51 & 52
Mooring Winch LO Storage	T05105	0.3	0.3	0.000	76.17	-30.43	40.77	51 & 52
Mooring Winch LO Storage	T05106	0.3	0.3	0.000	34.65	-30.07	40.67	22 & 23
Mooring Winch LO Storage	T05107	0.3	0.3	0.000	23.33	28.10	40.67	18 & 19
Mooring Winch LO Storage	T05108	0.3	0.3	0.000	61.84	30.07	40.66	59 & 60
Em. Gen. LO Storage	T05109	0.5	0.6	0.000	48.00	-22.17	45.00	31 & 32
WI Room LO Storage	T05110	0.8	0.9	0.900	35.87	-22.20	3.43	23 & 24
WI Room LO Storage	T05111	0.8	0.9	0.000	35.87	22.20	3.44	23 & 24
Turbine Lube Oil Consules	UQ-122306	15.0	16.7	0.000	89.67	24.55	49.23	58 & 59
Turbine Lube Oil Consules	UQ-122305	15.0	16.7	0.000	89.68	9.55	49.24	58 & 59
Turbine Lube Oil Consules	UQ-122304	15.0	16.7	0.900	89.71	-5.45	49.25	58 & 59
Lub Oils		900.1	995.7		84.77	0.46	26.43	

Miscellaneous Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Bilge Holding Tank	P	5.3	5.27	1.000	78.49	-26.31	0.76	51 & 52
Bilge Holding Tank	S	5.3	5.27	1.000	78.49	26.31	0.76	51 & 52
W.I. Eng Drain Tank	P	2.8	2.80	1.000	77.13	-30.77	1.22	50 & 51
W.I. Eng Drain Tank	S	2.8	2.80	1.000	77.13	30.77	1.22	50 & 51
Deaerator Tower -Port	C-51001	38.0	37.96	1.000	85.08	-23.73	27.60	55 & 56
Deaerator Tower -Starb	C-52001	38.0	37.96	1.000	85.08	23.73	27.60	55 & 56
Auxiliary Generator DO	GE-514001	1.0	1.15	0.870	54.30	+12.50	53.00	35 & 36
Aft Column Separator Tank	N1P	13.8	13.80	1.000	73.72	-26.29	35.16	52 & 53
Aft Column Separator Tank	N1S	13.8	13.80	1.000	73.72	26.29	35.16	52 & 53
Miscellaneous Tanks		120.7	120.8		82.65	-0.10	29.96	

Non Structural Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Fwd clmn p-tk	T05001A	100.0	83.5	1.316	25.00	26.70	27.00	16 & 17
Fwd clmn p-tk	T05001B	100.0	83.5	1.316	25.15	24.23	27.00	16 & 19
Fwd clmn p-tk	T05001A	100.0	83.5	1.316	25.15	-24.23	27.00	16 & 19
Fwd clmn p-tk	T05001B	100.0	83.5	1.316	25.00	-26.70	27.00	15 & 17
Hellfuel Retuel	A58001	7.0	7.0	1.000	34.56	-12.53	43.02	22 & 23
Hellfuel Disp	A58002	0.1	0.1	1.000	25.01	-19.20	45.10	17 & 18
Incinerator DO Day Tank	T59305	0.2	0.2	0.870	21.66	26.76	43.94	14 & 15
FW Chem Dosing Tank FW	T55101	2.0	2.0	1.000	63.02	-5.30	52.91	41 & 42
Cooling Expansion Tank	T55102	0.5	0.5	1.000	64.97	-6.20	52.91	42 & 43
Oily Water Separators	V-56201/V-56202	1.4	1.6	0.900	80.77	0.00	29.80	52 & 53
Glycol Sump Tank	TQ-122301	20.1	10.6	1.080	58.23	21.53	37.06	36 & 37
Tank Top Sump Tank	V-533605	16.0	16.0	1.000	76.22	6.44	46.47	50 & 51
Non Structural Tanks		487.8	380.0		29.85	0.87	28.46	

Process Content	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Oil Separation - Train A	UQ-122301	466.3	550.9	0.850	62.20	-28.61	47.27	60 & 61
Oil Separation - Train B	UQ-122302	467.9	550.5	0.850	62.26	-18.53	47.34	60 & 61
Oil Separation - Heating	UQ-122303	78.8	92.7	0.850	77.27	-20.01	47.49	50 & 51
Production Coalesce	TD-533501	42.6	52.2	0.000	64.74	-16.71	19.81	42 & 43
Turbine Cooling Water	UQ-122306	5.6	5.6	1.000	89.67	24.55	49.23	58 & 59
Turbine Cooling Water	UQ-122305	5.6	5.6	1.000	89.68	9.55	49.24	58 & 59
Turbine Cooling Water	UQ-122304	5.6	5.6	1.000	89.71	-5.45	49.25	58 & 59
Gas/Cond. Chemical Injection Package	UQ-582503	38.5	42.8	0.900	58.45	13.14	44.98	38 & 39
Oil Chemical Injection -Skid 2	UQ-582501-02	28.4	31.5	0.900	61.79	13.04	37.74	40 & 41
Sea Water Chemical Injection	UQ-582502	19.2	21.3	0.900	54.40	18.66	37.36	35 & 36
Oil Chemical Injection -Skid 1	UQ-582501-01	16.5	18.3	0.900	50.08	17.60	37.52	33 & 34
Chemical Injtn Package -Water Inj	A42001	1.7	1.9	0.900	61.56	17.60	38.33	40 & 41
Chemical Injection Package -Prod	A42002	1.5	1.7	0.900	55.68	13.40	38.33	36 & 37
Heating Med Exp Vessel	V-512501	19.0	20.3	0.935	48.12	2.293	63.76	31 & 32
Cooling Med Exp Vessel	V-512401	6.8	6.8	1.000	48.10	-3.218	63.76	31 & 32
Skim Pile Matrix Separator	V-56212	10.6	11.8	0.900	59.51	-13.30	43.02	39 & 40
Glycol Regeneration Package	UQ-123302	13.4	12.4	1.080	57.13	16.93	46.36	37 & 38
TEG Contactor Towers	UQ-122301	8.3	7.7	1.080	57.44	12.87	46.30	37 & 38
Safety Gas KO Drum Package	V-122201	14.5	14.9	0.975	62.85	30.50	45.06	41 & 42
Drains Treatment Package	A45001	14.4	14.4	1.000	97.09	14.72	39.08	64 & 65
Fuel Gas Treatment Package	UQ-513501	9.4	9.4	1.000	97.03	23.06	38.55	64 & 65
LP KO Drum Package + Pumps	UQ-541202	7.5	8.6	0.820	63.87	-16.36	44.21	41 & 42
Booster Comp Process Pkg	A30003	5.5	5.5	1.000	56.94	22.68	46.10	37 & 38
Caisson Pumps Antifouling Package	UQ-512101	8.2	8.0	1.025	32.98	15.20	44.42	21 & 22
Seawater Pumps and Piping	B-11102A/B/C	59.0	58.5	1.025	50.00	5.25	20.00	37 & 38
Water Injection System -Inc Piping	UQ-125101	49.3	48.1	1.025	50.00	0.00	26.20	39 & 40
Process Piping & Valves		104.4	121.3	0.860	56.40	5.84	46.02	36 & 37
HP Flare KO Drum Skid	A43001	8.4	10.2	0.820	60.66	-21.60	44.70	39 & 40
Cooling Medium Package	UQ-512401-01	26.8	26.8	1.000	28.01	17.04	46.23	17 & 18
Heating Medium Package & Piping	UQ-512501-01	43.3	44.9	0.965	31.61	23.90	40.56	20 & 21
Process Gas Module C	UQ-122309	6.0	12.3	0.650	70.26	31.85	48.86	62 & 63
Process Gas Module B	UQ-122307	6.0	12.3	0.650	70.26	16.85	48.86	62 & 63
Process Gas Module A	UQ-122305	6.0	12.3	0.650	70.26	2.06	48.86	62 & 63
Industrial Water System Piping		49.1	49.1	1.000	59.39	0.00	43.00	37 & 38
Process Content		1008.6			78.05	-11.07	43.74	

SW Ballast Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
SW Ballast	1P	908.9	886.7	1.025	9.50	-24.47	6.77	6 & 7
SW Ballast	1S	908.0	860.7	1.025	9.50	24.47	6.77	6 & 7
SW Ballast	2P	899.5	877.6	1.025	6.78	-30.71	6.21	4 & 5
SW Ballast	2S	899.5	877.6	1.025	6.78	30.71	6.21	4 & 5
SW Ballast	3P	746.9	728.7	1.025	10.71	-30.06	6.16	10 & 11
SW Ballast	3S	746.9	728.7	1.025	10.71	30.06	6.16	10 & 11
SW Ballast	4P	618.2	708.3	1.025	13.73	-36.66	6.26	9 & 10
SW Ballast	4S	618.2	708.3	1.025	13.73	36.66	6.26	9 & 10
SW Ballast	5P	265.0	256.0	1.025	27.71	-22.92	2.98	18 & 19
SW Ballast	5S	263.0	256.0	1.025	27.71	22.92	2.98	18 & 19
SW Ballast	6P	537.0	523.9	1.025	28.19	-31.74	5.27	18 & 19
SW Ballast	6S	537.0	523.9	1.025	28.19	31.74	5.27	18 & 19
SW Ballast	7P	560.1	555.2	1.025	26.94	-30.18	6.11	17 & 18
SW Ballast	7S	560.1	555.2	1.025	26.94	30.18	6.11	17 & 18
SW Ballast	11P	660.8	644.7	1.025	51.06	-30.81	4.57	33 & 34
SW Ballast	11S	660.8	644.7	1.025	51.06	30.81	4.57	33 & 34
SW Ballast	12P	660.8	644.7	1.025	61.72	-30.81	4.57	40 & 41
SW Ballast	12S	660.8	644.7	1.025	61.72	30.81	4.57	40 & 41
SW Ballast	13P	255.0	249.7	1.025	65.17	-22.72	3.04	55 & 56
SW Ballast	13S	255.9	249.7	1.025	65.17	22.72	3.04	55 & 56
SW Ballast	17P	537.0	523.9	1.025	84.58	-31.74	5.27	55 & 56
SW Ballast	17S	537.0	523.9	1.025	84.58	31.74	5.27	55 & 56
SW Ballast	18P	565.0	555.2	1.025	85.84	-30.18	6.11	56 & 57
SW Ballast	18S	569.0	555.2	1.025	85.84	30.18	6.11	56 & 57
SW Ballast	19P	747.0	728.8	1.025	86.07	-30.06	6.16	63 & 64
SW Ballast	19S	747.0	728.8	1.025	86.07	30.68	6.16	63 & 64
SW Ballast	20P	787.4	768.2	1.025	98.60	-30.37	6.16	64 & 65
SW Ballast	20S	787.4	768.2	1.025	98.59	30.37	6.16	64 & 65
SW Ballast	21P	987.8	963.7	1.025	103.87	-24.48	6.68	66 & 69
SW Ballast	21S	987.8	963.7	1.025	103.87	24.48	6.68	66 & 69
SW Ballast	22P	1094.0	1067.3	1.025	106.75	-31.15	6.13	70 & 71
SW Ballast	22S	1094.0	1067.3	1.025	106.75	31.15	6.13	70 & 71
SW Ballast	23P	682.3	665.6	1.025	28.02	-27.55	16.00	18 & 19
SW Ballast	23S	682.3	665.6	1.025	28.02	27.55	16.00	18 & 19
SW Ballast	24P	1005.3	980.8	1.025	28.00	-20.33	14.37	18 & 19
SW Ballast	24S	1005.3	980.8	1.025	28.00	20.33	14.37	18 & 19
SW Ballast	25P	682.3	665.6	1.025	84.70	-27.55	16.00	55 & 56
SW Ballast	25S	682.3	665.6	1.025	84.70	27.55	16.00	55 & 56
SW Ballast	26P	1005.3	980.8	1.025	84.77	-26.33	14.37	55 & 56
SW Ballast	26S	1005.3	980.8	1.025	84.77	26.33	14.37	55 & 56
Chain Locker	1P	372.2	363.1	1.025	84.58	-30.41	5.29	55 & 56
Chain Locker	2P	372.2	363.1	1.025	26.2	-30.41	5.29	18 & 19
Chain Locker	3P	372.2	363.1	1.025	26.2	30.41	5.29	18 & 19
Chain Locker	4S	372.2	363.1	1.025	84.58	30.41	5.29	55 & 56
Chain Locker	5P	53.5	52.2	1.025	86.47	-31.12	16.76	56 & 57
Chain Locker	6P	53.5	52.2	1.025	26.31	-31.12	16.76	17 & 18
Chain Locker	7S	53.5	52.2	1.025	26.31	31.12	16.76	17 & 18
Chain Locker	8S	53.5	52.2	1.025	86.47	31.12	16.76	56 & 57
SW Ballast Total		30537.8			57.24	0.00	7.01	

ENGINEERING DRAWING
PRELIMINARY
NOT FOR CONSTRUCTION
MARITIMO

DE-3010.38-1320-962-NBD-367-05	6A #PONTOON TANKS & SPACES PLAN SHT 1	
DE-3010.38-1320-962-NBD-367-06	6A #PONTOON TANKS & SPACES SHT 2	
DE-3010.38-1320-962-NBD-367-07	6A #PONTOON TANKS & SPACES, DEV SHT 3	
DE-3010.38-1320-962-NBD-367-04	6A #COLUMNS & CAISSON TANKS & SPACES PLAN	
DE-3010.38-1320-962-NBD-367-08	6A #PONTOON TANKS & SPACES CAISSON DEV SHT 4	
DE-3010.38-1320-962-NBD-367-02	TANK CAPACITY TABLE SHT 2	
DE-3010.38-1320-962-NBD-367-03	CAPACITY PLAN - DOUBLE BOTTOM	
DE-3010.38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO UPPER DECK	
DE-3010.38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE	
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK	
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP	
DE-3010.38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK	

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRAWN BY	CHK'D BY	APP'D BY	APP'D CLNT
E	02.10.08	AS BUILT	SCC	VSC	AT	
D	01.09.99	REVISED AFD	SCC	VSC	AT	
C	06.03.98	AFD	SCC	VSC	AT	
B	10.12.97	REVISED AFD	SCC	MSS	AT	
A	29.10.97	AFD	SCC	VSC	AT	
0	11.9.97	IDC	YHL	VSC	AT	

BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

NOBLE DENTON | Petrobras | AMEC

TITLE: P36 RONCADOR TANK CAPACITY TABLES

DRAWN BY: SCC/DEC.07 | CHECKED BY: MSC/OCT.08 | APPROVED BY: AT/OCT.08 | SCALE: N.T.S.

DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-06 | REV: E

Helicopter & Laydown Areas	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Helicopter	HD	24.0	623.1		21.10	-35.80	48.90	13 & 14
Tote Tank Laydown	LD-01	76.0	57.3	13.0	37.14	10.07	43.00	24 & 25
Misc Laydown 1	LD-02	75.0	56.6	13.0	38.55	-3.52	43.00	25 & 26
Misc Laydown 2	LD-03	53.3	40.2	13.0	39.27	-11.26	43.00	25 & 26
Compression A Laydown	LD-04	59.1	44.6	13.0	95.42	0.43	43.00	62 & 63
Compression B Laydown	LD-05	56.5	42.7	13.0	95.44	15.43	43.00	62 & 63
Compression C Laydown	LD-06	63.6	48.1	13.0	95.44	30.80	43.00	62 & 63
Turbine A Laydown	LD-07	19.9	15.0	13.0	73.34	-5.46	43.00	48 & 49
Turbine B Laydown	LD-08	19.9	15.0	13.0	73.34	9.54	43.00	48 & 49
Turbine C Laydown	LD-09	19.9	15.0	13.0	73.34	24.54	43.00	48 & 49
Pig Launcher Laydown	LD-10	67.4	50.9	13.0	106.05	-19.00	36.58	69 & 70
Multipurpose Court	LD-11	212.0	160.0	13.0	30.37	1.29	43.00	19 & 20
Helicopter & Laydown Areas		747.0			58.12	1.90	42.61	38 & 39

Crew & Stores @ Main Deck	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Paint Locker	MD-01	27.8	21.0	13	65.89	8.51	43.87	43 & 44
Dock Locker	MD-02	27.8	21.0	13	48.89	8.51	43.87	32 & 33
Marine Equipment Storage	MD-03	45.9	34.7	13	48.89	8.51	43.87	32 & 33
Crew & Stores @ Main Deck		101.6	76.7		53.55	8.51	43.87	35 & 36

Crew & Stores @ Second Deck	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Weld Shop	SD-01	124.7	94.1	13.0	64.66	-24.00	40.02	55 & 56
Production Warehouse	SD-02	51.0	39.0	13.0	98.69	24.00	41.12	58 & 59
Warehouse	SD-03	149.9	113.1	13.0	85.73	-15.02	41.12	56 & 57
Open Store	SD-04	109.4	81.8	13.0	69.43	-0.23	41.02	45 & 46
Dry Store 1	SD-05	59.8	45.1	13.0	40.21	8.46	40.52	26 & 27
Dry Store 2	SD-06	45.0	34.0	13.0	37.21	15.03	40.52	24 & 25
Chilling Room / Freezer	SD-07	61.8	46.7	13.0	42.47	15.03	41.02	27 & 28
Crew & Effects, etc		30.0			45.72	0.00	41.02	30 & 31
Crew & Stores @ Second Deck		632.1	454.4		68.08	-3.15	40.93	45 & 46

Crew & Stores @ Tank Top	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Pump Store Aft	TT-01	8.0	6.1	13.0	63.51	9.85	37.88	41 & 42
Pump Store Fwd	TT-02	8.0	6.1	13.0	49.28	9.85	37.88	32 & 33
Mech Store 1	TT-03	42.5	32.1	13.0	88.40	-31.10	37.88	58 & 59
Mech Store 2	TT-04	31.0	23.4	13.0	81.40	-32.18	37.88	53 & 54
Mech Workshop	TT-05	99.6	75.1	13.0	65.97	-23.66	37.58	56 & 57
Production Warehouse	TT-06	51.4	38.8	13.0	88.81	24.15	37.58	59 & 60
Production Warehouse	TT-07	32.3	39.5	13.0	80.51	24.00	37.58	52 & 53
Store	TT-08	81.7	61.8	13.0	82.90	31.44	37.88	54 & 55
Store	TT-09	60.3	45.3	13.0	69.19	-5.33	37.88	45 & 46
Electrical Workshop	TT-10	32.5	24.6	13.0	75.27	-8.16	37.78	49 & 50
Electrical Store	TT-11	43.5	32.8	13.0	75.27	-1.02	37.78	49 & 50
Hydraulic Workshop	TT-12	31.1	23.5	13.0	75.37	4.83	37.68	49 & 50
Central Caisson Laydown Area	TT-13	5.5	6.0	9.0	61.89	-2.75	37.58	40 & 41
Starboard Forward Laydown Area	TT-14	10.8	21.6	9.0	37.67	22.62	37.58	24 & 25
Instrumentation Workshop	TT-15	61.0	46.3	13.0	73.19	23.30	37.58	48 & 49
Crew & Stores @ Tank Top		626.6	482.8		78.11	3.04	37.72	51 & 52

Void Spaces	ID	Max Wt (M.T)	Volume (m3)	Density (M/T/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
VOID SPACE	N.27P	34.7	33.9	1.025	33.53	-21.3	5.33	22 & 23
VOID SPACE	N.27S	34.7	33.9	1.025	33.53	21.3	5.33	22 & 23
VOID SPACE	N.28P	34.7	33.9	1.025	79.25	-21.3	5.33	52 & 53
VOID SPACE	N.28S	34.7	33.9	1.025	79.25	21.3	5.33	52 & 53
VOID SPACE	N.29P	142.1	138.7	1.025	19.06	-30.1	15.24	12 & 13
VOID SPACE	N.29S	142.1	138.7	1.025	19.06	30.1	15.24	12 & 13
VOID SPACE	N.29aP	166.8	162.7	1.025	28.2	-35.7	18.36	18 & 19
VOID SPACE	N.29aS	166.8	162.7	1.025	28.2	35.7	18.36	18 & 19
VOID SPACE	N.30P	142.1	138.7	1.025	93.72	-30.1	15.24	61 & 62
VOID SPACE	N.30S	142.1	138.7	1.025	93.72	30.1	15.24	61 & 62
VOID SPACE	N.30aP	166.8	162.7	1.025	84.58	-35.7	18.36	55 & 56
VOID SPACE	N.30aS	166.8	162.7	1.025	84.58	35.7	18.36	55 & 56
VOID SPACE	N.31P	48.8	47.6	1.025	84.58	-30.0	22.10	55 & 56
VOID SPACE	N.31S	48.8	47.6	1.025	84.58	30.0	22.10	55 & 56
VOID SPACE	N.32P1	238.6	233.0	1.025	23.75	-16.8	25.15	15 & 16
VOID SPACE	N.32S1	238.8	233.0	1.025	23.75	16.8	25.15	15 & 16
VOID SPACE	N.32P2	239.9	234.0	1.025	32.47	-23.1	25.30	21 & 22
VOID SPACE	N.32S2	239.9	234.0	1.025	32.47	23.1	25.30	21 & 22
VOID SPACE	N.32P3	477.7	466.0	1.025	28.19	-28.1	25.15	18 & 19
VOID SPACE	N.32S3	477.7	466.0	1.025	28.19	28.1	25.15	18 & 19
VOID SPACE	N.33P1	252.7	246.5	1.025	80.29	-31.4	25.15	52 & 53
VOID SPACE	N.33S1	252.7	246.5	1.025	80.29	31.4	25.15	52 & 53
VOID SPACE	N.33P2	252.7	246.5	1.025	86.88	-31.4	25.15	58 & 59
VOID SPACE	N.33S2	252.7	246.5	1.025	86.88	31.4	25.15	58 & 59
VOID SPACE	N.34	361.8	353.0	1.025	50.56	0.0	12.95	33 & 34
VOID SPACE	N.35	361.8	353.0	1.025	93.22	0.0	12.95	40 & 41
VOID SPACE	N.36	59.5	58.0	1.025	56.39	-7.5	27.43	37 & 38
VOID SPACE	N.37P	130.2	127.0	1.025	48.65	-0.2	30.86	31 & 32
VOID SPACE	N.37S	113.0	110.2	1.025	43.56	9.1	38.96	31 & 32
VOID SPACE	N.38P	130.2	127.0	1.025	64.13	-0.2	30.86	42 & 43
VOID SPACE	N.38S	113.0	110.2	1.025	64.22	9.1	38.96	42 & 43
VOID SPACE	N.39	1404.0	1370.6	1.025	26.2	0.0	35.81	18 & 19
VOID SPACE	N.40	1987.9	1939.4	1.025	51.58	-5.1	35.81	35 & 36
VOID SPACE	N.41	220.6	215.4	1.025	56.39	24.0	35.81	37 & 38
VOID SPACE	N.42P	441.5	430.7	1.025	56.39	-30.9	35.81	37 & 38
VOID SPACE	N.42S	441.5	430.7	1.025	56.39	30.1	35.81	37 & 38
VOID SPACE	N.43	1010	1965.3	1.025	80.91	2.6	35.81	53 & 54
VOID SPACE	N.44	447.3	436.4	1.025	56.39	0.8	35.81	37 & 38
VOID SPACE	N.45P	226.5	220.9	1.025	93.72	-22.0	30.10	61 & 62
VOID SPACE	N.45S	226.5	220.9	1.025	93.72	22.9	30.10	61 & 62
VOID SPACE	N.45aP	183.2	178.7	1.025	93.72	-35.0	22.71	61 & 62
VOID SPACE	N.45aS	184.2	179.7	1.025	93.72	35.0	22.71	61 & 62
VOID SPACE	N.46P	226.5	220.9	1.025	19.06	-22.0	30.10	12 & 13
VOID SPACE	N.46S	226.5	220.9	1.025	19.06	22.0	30.10	12 & 13
VOID SPACE	N.46aP	183.2	178.7	1.025	19.06	-35.0	22.71	12 & 13
VOID SPACE	N.46aS	184.2	179.7	1.025	19.06	35.0	22.71	12 & 13
VOID SPACE	N.50P	48.6	47.4	1.025	16.77	-24.8	0.76	11 & 12
VOID SPACE	N.50S	48.6	47.4	1.025	16.77	24.8	0.76	11 & 12
VOID SPACE	N.51P	48.6	47.4	1.025	96.01	-24.8	0.70	62 & 63
VOID SPACE	N.51S	48.6	47.4	1.025	96.01	24.8	0.76	62 & 63
VOID SPACE	N.52P	146.0	142.4	1.025	71.57	-15.0	12.19	46 & 47
VOID SPACE	N.52S	146.0	142.4	1.025	71.57	15.0	12.19	46 & 47
VOID SPACE	N.53P	146.0	142.4	1.025	41.22	-15.0	12.19	27 & 28
VOID SPACE	N.53S	146.0	142.4	1.025	41.22	15.0	12.19	27 & 28
VOID SPACE	N.54	297.3	290.0	1.025	84.50	0.0	12.19	55 & 56
VOID SPACE	N.55	297.3	290.0	1.025	28.19	0.0	12.19	18 & 19
VOID SPACE	N.56	2639.9	2575.5	1.025	91.11	0.0	24.04	33 & 34
VOID SPACE	N.57	2639.9	2575.5	1.025	91.67	0.0	24.64	40 & 41
VOID SPACE	N.58S	205.0	200.0	1.025	42.3	15.0	12.19	27 & 28
VOID SPACE	N.58P	205.0	200.0	1.025	42.3	-15.0	12.19	27 & 28
VOID SPACE	N.59S	205.0	200.0	1.025	70.48	15.0	12.19	46 & 47
VOID SPACE	N.59P	205.0	200.0	1.025	70.48	-15.0	12.19	46 & 47
VOID SPACE	N.60	3222.1	3140.5	1.025	55.39	-0.6	24.76	37 & 38
VOID SPACE	N.61P	499.3	487.1	1.025	70.89	-27.4	10.67	46 & 47
VOID SPACE	N.61S	499.3	487.1	1.025	70.89	27.4	10.67	46 & 47
VOID SPACE	N.62S	116.8	113.9	1.025	27.69	29.9	14.50	18 & 19
VOID SPACE	N.62P	116.8	113.9	1.025	27.69	-29.9	14.50	18 & 19
VOID SPACE	N.63S	116.8	113.9	1.025	84.58	29.9	14.50	55 & 56
VOID SPACE	N.63P	116.8	113.9	1.025	84.58	-29.9	14.50	55 & 56
VOID SPACE	N.64S	258.3	252.0	1.025	27.69	29.9	22.95	18 & 19
VOID SPACE	N.64P	258.3	252.0	1.025	27.69	-29.9	22.95	18 & 19
VOID SPACE	N.65S	258.3	252.0	1.025	84.58	29.9	22.95	55 & 56
VOID SPACE	N.65P	258.3	252.0	1.025	84.58	-29.9	22.95	55 & 56
CHAIN LOCKER	0P	116.1	113.3	1.025	93.73	-34.8	15.40	61 & 62
CHAIN LOCKER	1SP	116.1	113.3	1.025	19.05	-34.8	15.40	12 & 13
CHAIN LOCKER	1PS	116.1	113.3	1.025	19.05	34.8	15.40	12 & 13
CHAIN LOCKER	1SS	116.1	113.3	1.025	93.73	34.8	15.40	61 & 62
Void Spaces		27828.1	27140.37		56.00	-0.08	25.14	30 & 37

COPIA FIELD DOCUMENTATION
ORIGINAL



DE-3010.38-1320-962-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1		
DE-3010.38-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES ELEV. SHT.2		
DE-3010.38-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES ELEV. SHT.3		
DE-3010.38-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN		
DE-3010.38-1320-962-NBD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5		
DE-3010.38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT. 2		
DE-3010.38-1320-962-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM		
DE-3010.38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO MAIN DECK		
DE-3010.38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE		
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK		
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP		
DE-3010.38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK		
DRAWING NUMBER		DRAWING TITLE	

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHD BY	APPD BY	APPD DATE
E	06.10.06	AS BUILT	SCH	MBD	AT	
D	01.06.06	MP/VSPD APD	BCY	MBD	AT	
C	05.05.06	APD	BCC	MBD	AT	
B	16.12.97	REVISED APD	SCC	MBD	AT	
A	25.10.04	APD	SCC	MBD	AT	
0	11.08.97	IDC		IHHS	MBD	AT

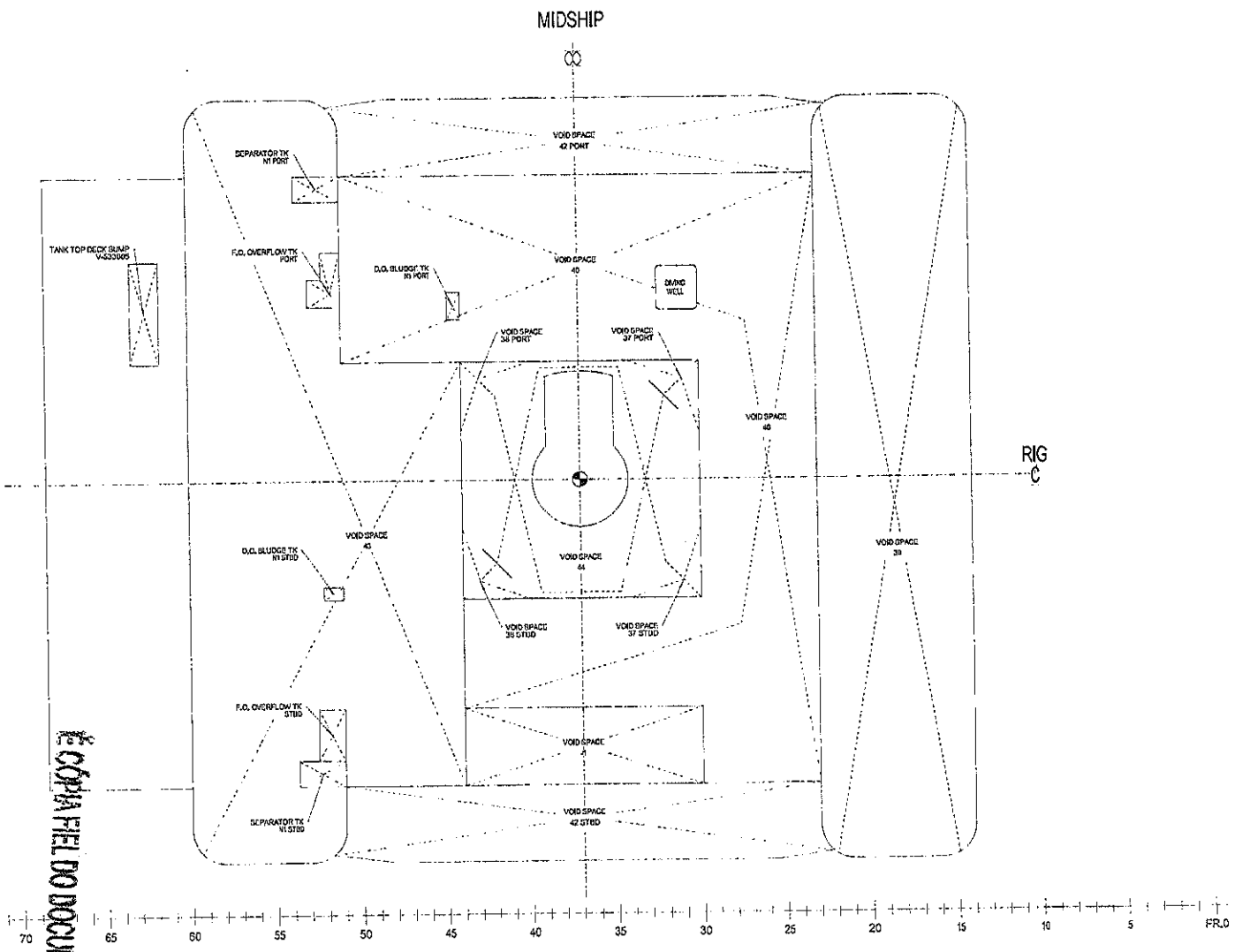
BRASOIL | NOBLE DENTON | Petromec | AMEC

P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

TITLE: P36 RONCADOR TANK CAPACITY TABLES

DRAWN DATE: SCD/DEC.07
DESIGNED: MSP/OCT.07
APPROVED: AT/OCT.07
SCALE: N.T.S.

DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-07 REV: E



PLAN ON DOUBLE BOTTOM
(EL.+35052 A.B.L.)

ESTA É CÓPIA FIEL DO DOCUMENTO ORIGINAL

KEY PLAN

THIS DRG



TRIBUNAL MARÍTIMO
DIVERGE DO ORIGINAL

DRAWING NUMBER	DRAWING TITLE
DE-3010.34-1220-940-NDD-307-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.34-1220-940-NDD-307-02	G.A. of PONTOON TANKS & SPACES ELEV. SHT.2
DE-3010.34-1220-940-NDD-307-03	G.A. of PONTOON TANKS & SPACES ELEV. SHT.3
DE-3010.34-1220-940-NDD-307-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.34-1220-940-NDD-307-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.4
DE-3010.34-1220-940-NDD-307-06	TANK CAPACITY TABLE SHT. 1
DE-3010.34-1220-940-NDD-307-07	TANK CAPACITY TABLE SHT. 2
DE-3010.34-1220-940-NDD-307-08	CAPACITY PLAN - TANK TOP TO U/S MAIN DECK
DE-3010.34-1220-940-NDD-307-09	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.34-1220-940-NDD-307-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.34-1220-940-NDD-307-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.34-1220-940-NDD-307-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

REFERENCE DRAWINGS

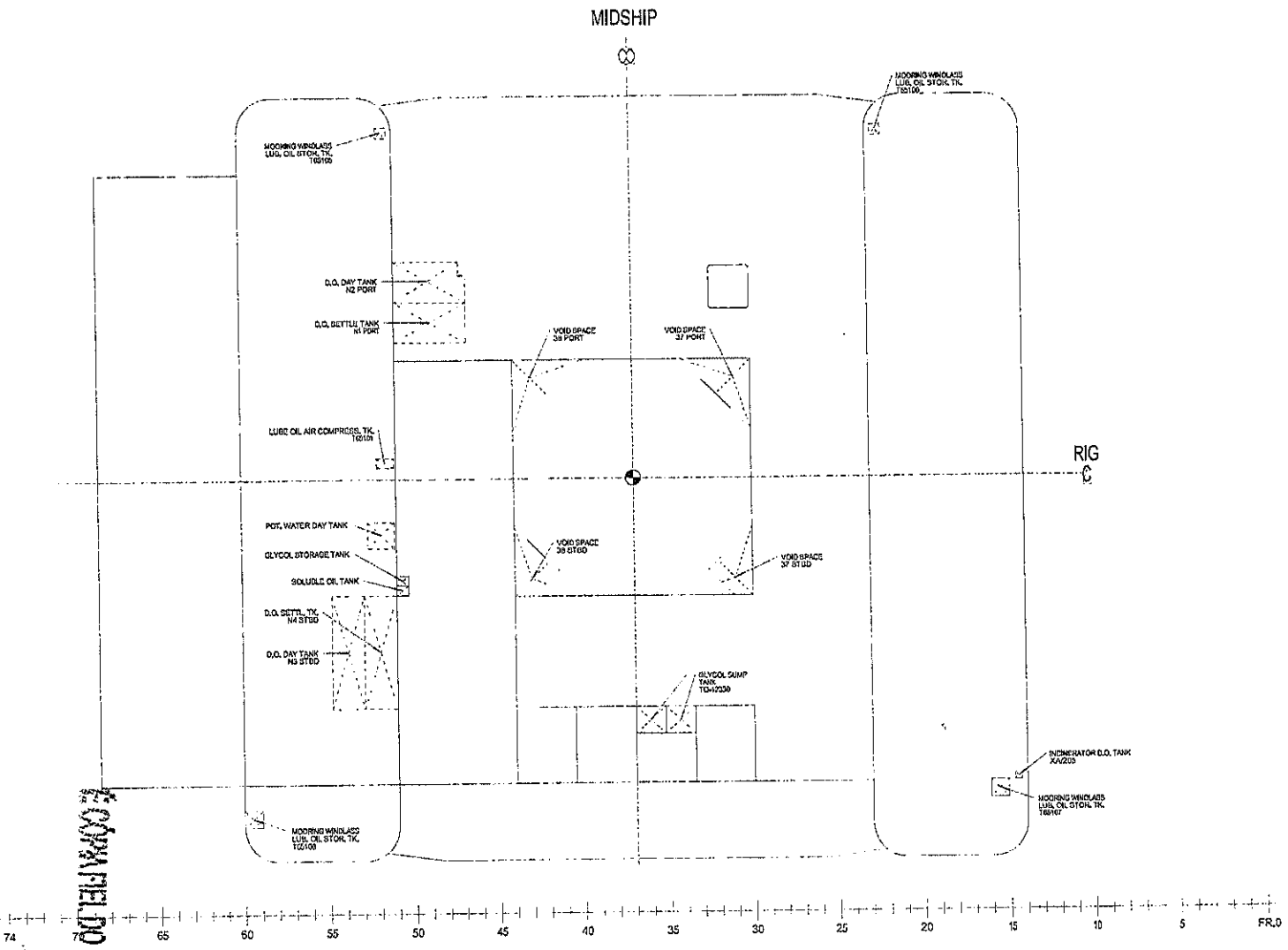
REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
3	02.10.09	AS BUILT	SCE	MSE	AT	
2	01.09.09	AFC	SCE	MSE	AT	

P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

BRASOIL | NOBLE DENTON | PETROBRAS | AMEC

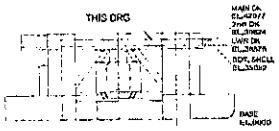
TITLE
CAPACITY PLAN
DOUBLE BOTTOM
EL.+35052 - EL.+36576 A.B.L.

DRAWN DATE: SCE/AUG.09
CHECKED DATE: MSE/OCT.09
APPROVED DATE: AT/OCT.09
SCALE: 1:200
DRAWING NUMBER: DE-3010.38-1220-902-NDD-307-08
REV: 8



PLAN AT TANK TOP TO U/S MAIN DECK
(EL.+36576 A.B.L.)

KEY PLAN



DRAWING NUMBER	DRAWING TITLE
DE-3010.38-1320-902-NDD-307-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-902-NDD-307-02	G.A. of PONTOON TANKS & SPACES ELEV. SHT.2
DE-3010.38-1320-902-NDD-307-03	G.A. of PONTOON TANKS & SPACES ELEV. SHT.3
DE-3010.38-1320-902-NDD-308-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-902-NDD-308-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DE-3010.38-1320-902-NDD-307-06	TANK CAPACITY TABLE SHT. 1
DE-3010.38-1320-902-NDD-307-07	TANK CAPACITY TABLE SHT. 2
DE-3010.38-1320-902-NDD-307-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-902-NDD-307-09	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-902-NDD-307-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-902-NDD-307-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-902-NDD-307-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRWN BY	CHKD BY	APPD BY	APPD BY (CLIENT)
1	02.10.99	AS BUILT	SCE	MSE	AT	
0	01.06.99	A.F.C.	SCE	MSE	MSE	

P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

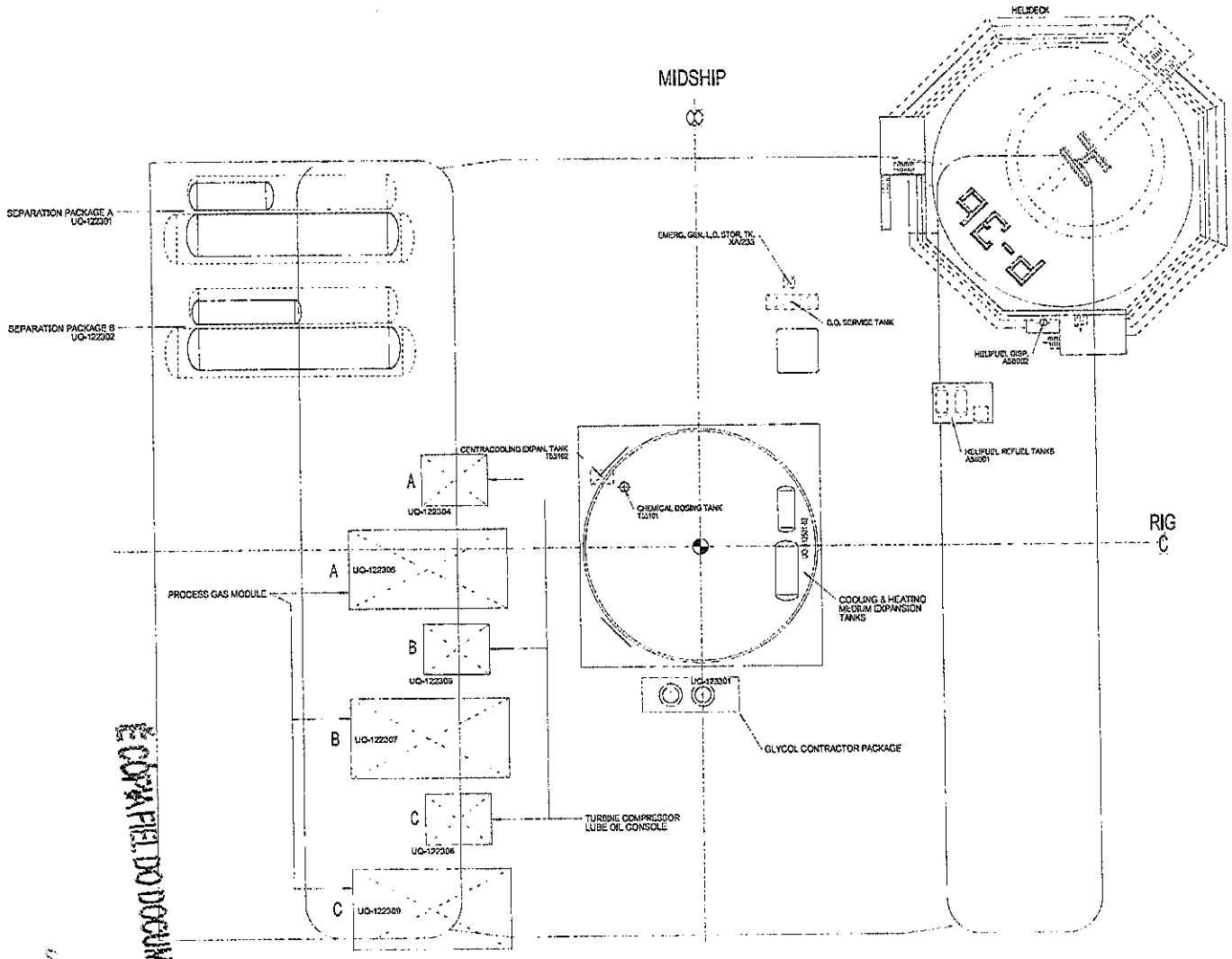
IBR BRASOIL | NOBLE DENTON | Petromec | AMEC

TITLE
CAPACITY PLAN
TANK TOP TO U/S MAIN DECK
EL.+36576 - EL.+42077 A.B.L.

DRAWN/DATE SCE/AUG.99
CHECKED/DATE MSE/OCT.99
APPROVED/DATE AT/OCT.99
SCALE 1:200
REV A

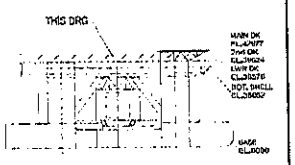
DRAWING NUMBER
DE-3010.38-1320-902-NDD-307-00

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PLAN AT AND ABOVE MAIN DECK
(EL.+42.672 A.B.L. & ABOVE)

KEY PLAN



DE-3010.38-1320-NBD-304-01	G.A. of PONTOON TANKS & SPACES PLAN SH.1
DE-3010.38-1320-002-NBD-304-02	G.A. of PONTOON TANKS & SPACES ELEV.SH.2
DE-3010.38-1320-003-NBD-304-03	G.A. of PONTOON TANKS & SPACES ELEV.SH.3
DE-3010.38-1320-004-NBD-304-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-005-NBD-304-05	G.A. of PONTOON TANKS & SPACES CAISSON EL.SH.5
DE-3010.38-1320-002-NBD-307-05	TANK CAPACITY TABLE SH.1
DE-3010.38-1320-003-NBD-307-07	TANK CAPACITY TABLE SH.2
DE-3010.38-1320-004-NBD-307-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-005-NBD-307-09	CAPACITY PLAN - TANK TOP TO U/S MAIN DECK
DE-3010.33-1320-002-NBD-307-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.34-1320-002-NBD-307-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.36-1320-002-NBD-307-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK
DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DESIGN BY	CHKD BY	APPD BY	APPD CLIENT
1	02.10.09	AS BUILT	SCC	MSE	AT	
0	01.07.99	A.F.C.	SCC	MSE	AT	

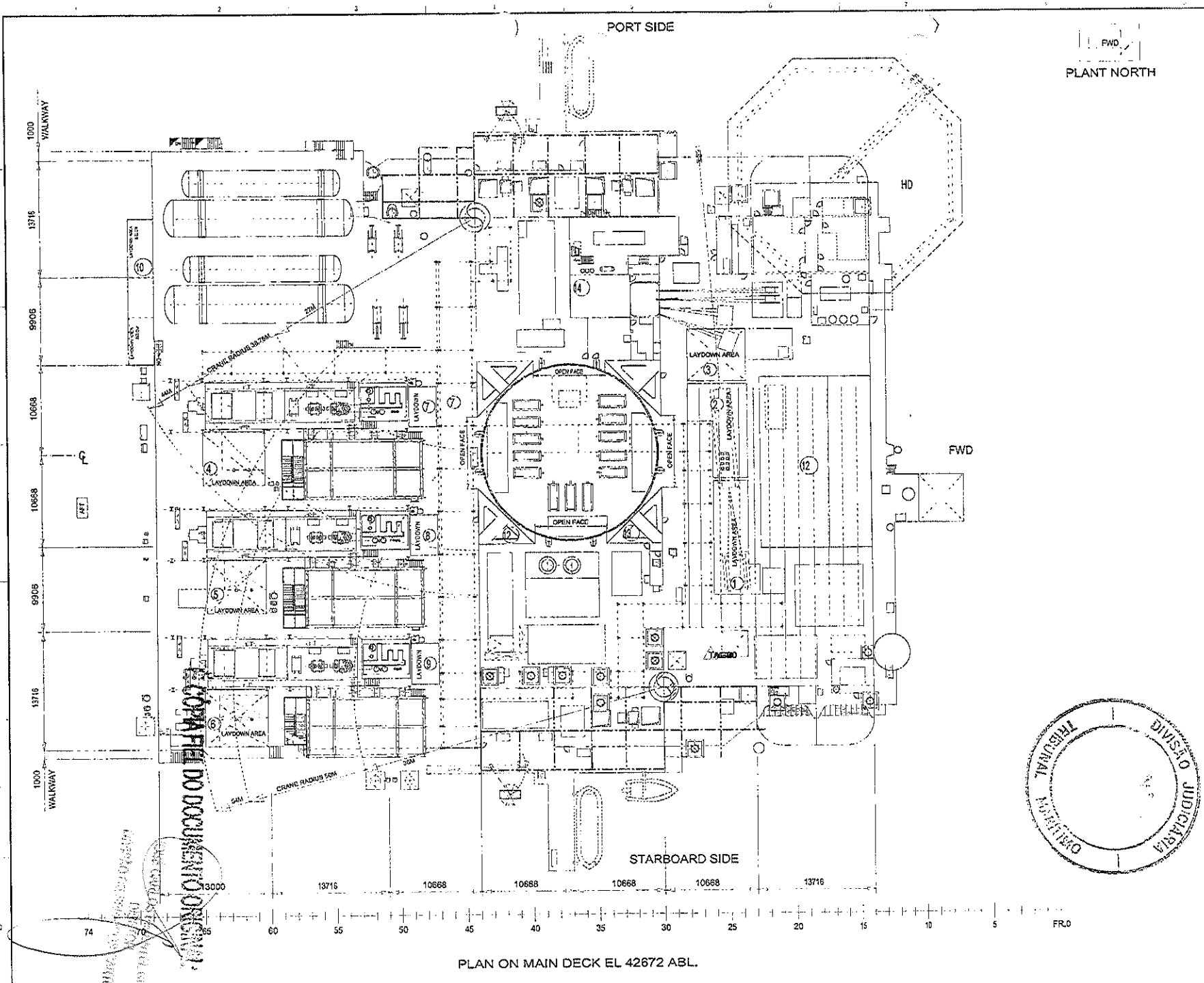
P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

BRADOIL | NOBLE DENTON | Petrobras | ABS

TITLE
CAPACITY PLAN
MAIN DECK AND ABOVE
EL.+42077 A.B.L. AND UPWARDS

DRAWN DATE: SCC/AUG.09
CHECKED DATE: MSE/OCT.99
APPROVED DATE: AT/OCT.00
SCALE: 1:200
DRAWING NUMBER: DE-3010.38-1320-002-NBD-307-10
REV: A

ESTA COPIA É DO DOCUMENTO ORIGINAL



AREA No.	DESCRIPTION	MAX WL (t)	CENTROID	
1	TOTE TANK LAYDOWN	76.0	A	37.14
			S	10.07
			EL	43.00
2	MISC LAYDOWN 1	[illegible]	A	30.55
			S	-3.52
			EL	43.00
3	MISC LAYDOWN 2	53.0	A	39.27
			S	-11.26
			EL	43.00
4	COMPRESSION A LAYDOWN	65.1	A	95.42
			S	0.43
			EL	43.00
5	COMPRESSION B LAYDOWN	30.5	A	95.44
			S	15.43
			EL	43.00
6	COMPRESSION C LAYDOWN	65.8	A	95.44
			S	30.86
			EL	43.00
7	TURBINE A LAYDOWN	19.9	A	73.34
			S	-5.46
			EL	43.00
8	TURBINE B LAYDOWN	19.9	A	73.34
			S	9.54
			EL	43.00
9	TURBINE C LAYDOWN	19.9	A	73.34
			S	24.54
			EL	43.00
10	PIG LAUNCHER LAYDOWN	67.4	A	106.05
			S	-19.00
			EL	36.58
11	MULTIPURPOSE COURT	212.8	A	30.37
			S	1.29
			EL	43.00
HD	HELIDECK	24.0	A	23.99
			S	-32.40
			EL	48.00
12	PAINT LOCKER	27.03	A	95.80
			S	8.51
			EL	43.67
13	DECK LOCKER	27.03	A	48.80
			S	8.51
			EL	43.67
14	RISER PULL-IN EQUIP. STORAGE AREA	45.04	A	52.67
			S	-18.10
			EL	43.00
	TOTAL	848.4	A	43.00
			S	-13.22
			EL	45.68

DB-3010.38-1320-903-NSD-387-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DB-3010.38-1320-903-NSD-387-02	G.A. of PONTOON TANKS & SPACES B. DTL SHT.2
DB-3010.38-1320-903-NSD-387-03	G.A. of PONTOON TANKS & SPACES DTL SHT.3
DB-3010.38-1320-903-NSD-387-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DB-3010.38-1320-903-NSD-387-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DB-3010.38-1320-903-NSD-387-06	TANK CAPACITY TABLE SHT. 1
DB-3010.38-1320-903-NSD-387-07	TANK CAPACITY TABLE SHT. 2
DB-3010.38-1320-903-NSD-387-08	CAPACITY PLAN - DOUBLE BOTTOM
DB-3010.38-1320-903-NSD-387-09	CAPACITY PLAN - TANK TOP TOWN MAIN DECK
DB-3010.38-1320-903-NSD-387-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DB-3010.38-1320-903-NSD-387-11	STORAGE AND LAYDOWN AREAS AT TANK TOP
DB-3010.38-1320-903-NSD-387-12	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER — DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
A	02.10.00	AS BUILT	SCE	MSE	AT	
0	01.09.00	A.F.C.	SCE	MSE	MSE	

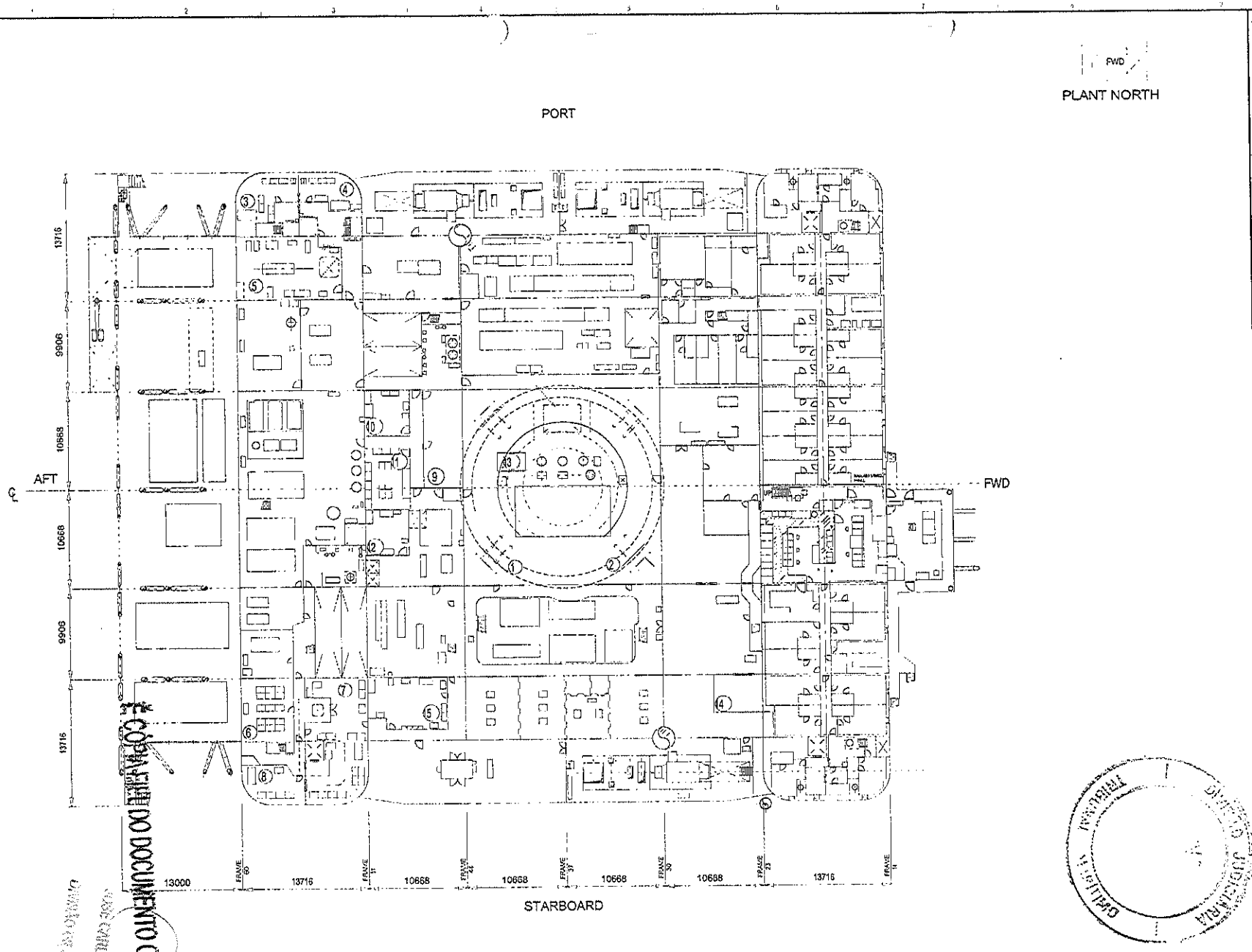
P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

BRASOIL | NOBLE DENTON | Petrobras | AMEC

TITLE: STORAGE & LAYDOWN AREAS @ MAIN DECK LEVEL EL 42,672 A.B.L.

DRAWN/DATE: SCE/AUG.00
CHECKED/DATE: MSE/OCT.00
APPROVED/AUTH: AT/OCT.00
SCALE: 1:200
DRAWING NUMBER: DB-3010.38-1320-062-NSD-387-11
REV: A

DOCUMENTO CONTROLADO
OBSOLETO
TRASLADAL
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PLAN ON TANK TOP
EL. 36576

AREA No.	DESCRIPTION	MAX WL (t)	CENTROID	
1	PUMP STORE AFT	14	A	63.51
			S	9.65
			EL	37.86
2	PUMP STORE FWD	8.04	A	40.28
			S	9.65
			EL	37.86
3	MECH STORE 1	42.48	A	86.40
			S	-31.16
			EL	37.86
4	MECH STORE 2	30.06	A	81.40
			S	-32.16
			EL	37.86
5	MECH WORKSHOP	99.50	A	85.97
			S	-23.80
			EL	37.58
6	PRODUCTION WARCHOUSE	51.42	A	88.61
			S	24.15
			EL	37.58
7	PRODUCTION WARCHOUSE	52.31	A	80.51
			S	24.09
			EL	37.58
8	STORE	81.08	A	82.00
			S	31.44
			EL	37.86
9	STORE	60.34	A	69.16
			S	-9.33
			EL	37.68
10	ELECTRICAL WORKSHOP	32.54	A	75.27
			S	-6.16
			EL	37.76
11	ELECTRICAL STORE	43.51	A	75.27
			S	-1.02
			EL	37.76
12	HYDRAULIC WORKSHOP	31.14	A	75.37
			S	-4.83
			EL	37.68
13	CENTRAL CAISSON LAYDOWN AREA	5.50	A	61.89
			S	-2.75
			EL	37.58
14	STARBOARD FORWARD LAYDOWN AREA	19.80	A	37.87
			S	22.62
			EL	37.58
15	INSTRUMENTATION WORKSHOP	81.20	A	73.19
			S	23.30
			EL	37.58
	TOTAL	626.01	A	78.11
			S	3.04
			EL	37.72

DRAWING NUMBER	DRAWING TITLE
DC-3910.38-1320-001-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DC-3910.38-1320-002-NBD-367-02	G.A. of PONTOON TANKS & SPACES ELEV. SHT.2
DC-3910.38-1320-003-NBD-367-03	G.A. of PONTOON TANKS & SPACES ELEV. SHT.3
DC-3910.38-1320-101-NBD-367-01	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DC-3910.38-1320-102-NBD-367-02	G.A. of PONTOON TANKS & SPACES CAISSON CL. SHTS
DC-3910.38-1320-410-NBD-367-01	TANK CAPACITY TABLE SHT. 1
DC-3910.38-1320-411-NBD-367-02	TANK CAPACITY TABLE SHT. 2
DC-3910.38-1320-501-NBD-367-01	CAPACITY PLAN - DOUBLE BOTTOM
DC-3910.38-1320-502-NBD-367-02	CAPACITY PLAN - TANK TOP TO MAIN DECK
DC-3910.38-1320-503-NBD-367-03	CAPACITY PLAN - MAIN DECK AND ABOVE
DC-3910.38-1320-504-NBD-367-04	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DC-3910.38-1320-505-NBD-367-05	STORAGE AND LAYDOWN AREAS AT TOPSIDE DECK

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	ORIGN'R	CHK'D	APP'D	APP'D
A	02.10.09	ISSUED FOR CLIENT APPROVAL	SCE	MSE	AT	
0	01.06.09	A.F.C.	SCE	MSE	AT	

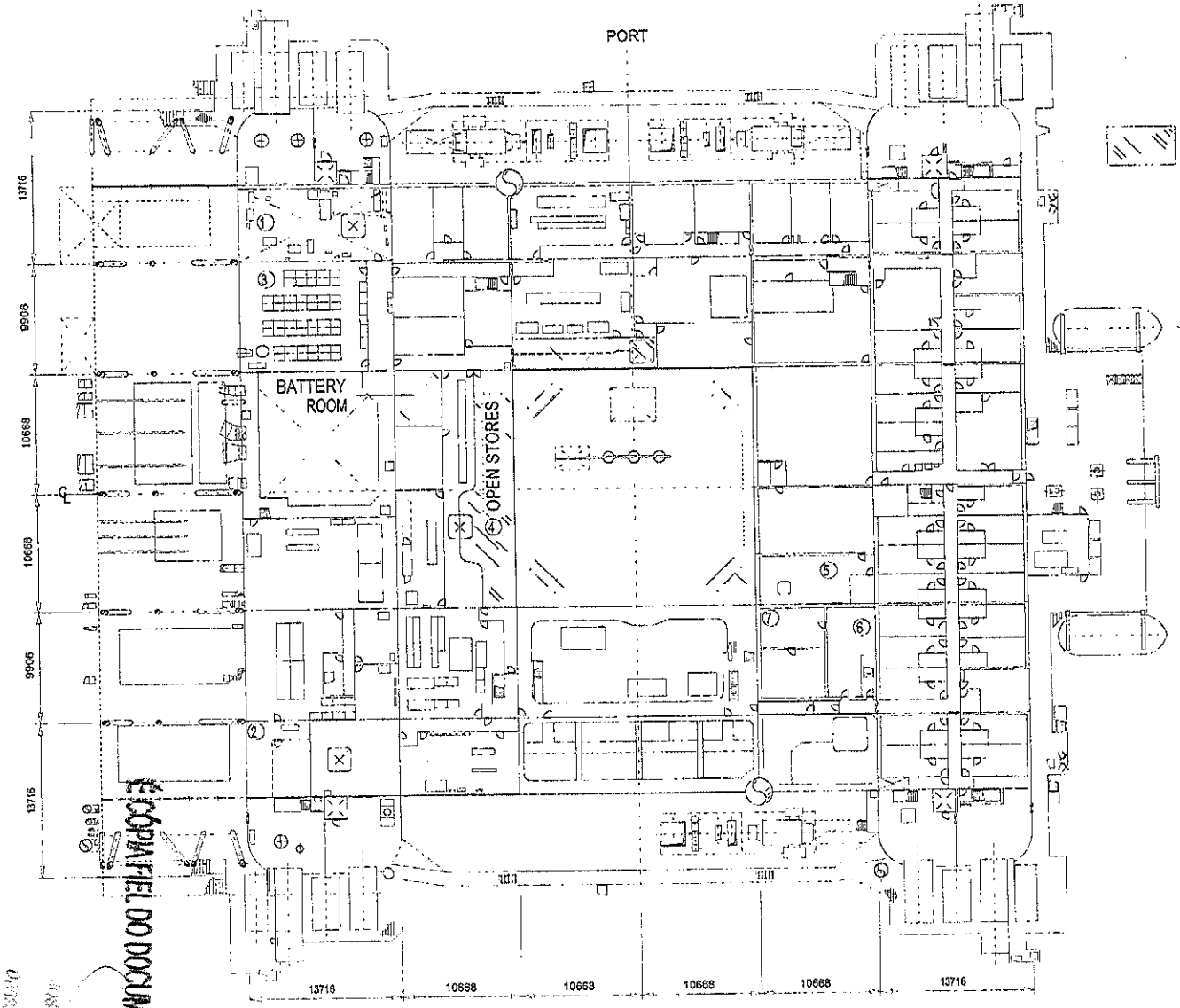
PROJECT: P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

BRASOIL | NOBLE DENTON | Petrotec | AMEC

TITLE: STORAGE & LAYDOWN AREAS @ TANK TOP LEVEL EL. 36.576 A.D.L.

DRAWN BY: SCE/AUG.09
CHECKED BY: MSE/OCT 90
APPROVED BY: AT/OCT 90
SCALE: 1:200
DRAWING NUMBER: DC-3910.38-1320-002-NBD-367-02
REV: A

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CÓPIA CONTROLADA



AREA No.	DESCRIPTION	MAX Wt. (t)	CENTROID	
1	WELD SHOP	65	A	84.56
			S	-24.00
			EL	40.62
2	PRODUCTION WAREHOUSE	91.83	A	88.00
			S	24.00
			EL	4.12
		140.86	A	65.73
			S	-15.60
			EL	41.12
3	WAREHOUSE	105.44	A	69.43
			S	-6.23
			EL	41.02
4	OPEN STORE	59.76	A	40.21
			S	8.48
			EL	40.52
5	DRY STORE 1	45.02	A	37.21
			S	15.03
			EL	40.52
		61.84	A	42.47
6	DRY STORE 2		S	15.03
			EL	41.00
		3.06	A	45.72
			S	0.00
			EL	41.02
7	CHILLING ROOM/ FREEZER	005.10	A	70.02
			S	-3.26
			EL	40.60
	CREW & EFFECTS			
	TOTAL			

DE-3010.38-1320-002-ARD-3A1-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-002-ARD-3A1-02	G.A. of PONTOON TANKS & SPACES PLAN SHT.2
DE-3010.38-1320-002-ARD-3A1-03	G.A. of PONTOON TANKS & SPACES ELEVATION
DE-3010.38-1320-002-ARD-3A1-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-002-ARD-3A1-05	G.A of PONTOON TANKS & SPACES CAISSON EL. SHT.II
DE-3010.38-1320-002-ARD-3A1-06	TANK CAPACITY TABLE SHT.1
DE-3010.38-1320-002-ARD-3A1-07	TANK CAPACITY TABLE SHT.2
DE-3010.38-1320-002-ARD-3A1-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-002-ARD-3A1-09	CAPACITY PLAN - TANKTOP TO UR MAIN DECK
DE-3010.38-1320-002-ARD-3A1-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-002-ARD-3A1-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-002-ARD-3A1-12	STORAGE AND LAYDOWN AREAS AT MAIN TOP

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRAWN BY	CHK'D BY	APPD BY	APPD CLIENT
A	20.09.99	AS SUB'T	SCE	MSE	AT	
B	01.10.99	A.F.C.	SCE	MSE	MSE	

P36-ROncador Field Development
CONTRACT No :- 7/15/2150

BRASOIL | NOBLE DENTON | Petromec | ARD

TITLE: STORAGE & LAYDOWN AREAS @ SECOND DECK LEVEL EL. 39.624 A.B.L.

DRAWN DATE: SCE/AUG.99
CHECKED DATE: MSE/OCT 99
APPROVED DATE: AT/OCT 99
SCALE: 1:200

DRAWING NUMBER: DE-3010.38-1320-002-ARD-3A1-13 REV: A

FR.0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 74

PLAN ON SECOND DECK
EL. 39624

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Petrobras - Roncador Field Development
Operations Manual - Volume 7
Loading Condition: Transit Draft 11.0m
Misc Deck Load 300 tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	21%	169	13,73	36,66	1,41	0,003	0,039
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	87%	494	26,94	-36,18	5,32	0,002	0,016
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,002	0,016
SW Ballast 11P	644,7	1,025	1%	7	51,06	-30,81	0,05	0,000	0,000
SW Ballast 11S	644,7	1,025	1%	7	51,06	30,81	0,05	0,000	0,000
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	1%	7	61,72	30,81	0,05	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				3274	19,48	2,53	5,39	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	3273,8	19,48	2,53	5,39	0,007	0,071
Displacement	**37083,4**	**57,18**	**-0,02**	**26,99**	**0,010**	**0,072**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	11,0 m
LCB (from FP)	57,18 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,36 m
LCF (from FP)	58,17 m
TCF (+ve stbd)	-0,02 m
MCHC	207,58 m
MCTC	270,10 m
TPC	33,56 T/cm

Draft, Heel & Trim
(Input from Stability Software)

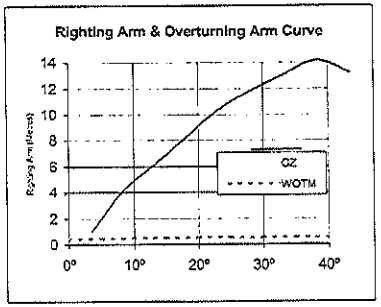
Draft Aft Perpendicular (INPUT)	11,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	11,000 m
Mean Draft @ Amidships	11,000 m
Mean Draft Forward	11,000 m

Statical Stability

Corrected VCG =	27,00 m	27,06 m
KMT / KML =	70,50 m	109,20 m
GMT / GML =	43,50 m	82,14 m

Stability Margin

Allowable VCG =	44,90 m
Stability Margin =	17,84 m



Petrobras 36 - Roncador Field ... elopment
Operations Manual - Volume 7
Loading Condition: Transit Draft 11.0m

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8S	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,56	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,56	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,96	30,10	0,000	0,000
Potable Water	0			402,7	84,26	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	79,04	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,85	35,43	0,001	0,000
Fuel Oil	0			15,8	78,01	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,61	-15,82	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,56	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,62	-13,09	39,28	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,69	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,82	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	76,15	15,82	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,9	76,13	-3,96	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	81,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	0%	0,900	0,0	89,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	99,81	-1,62	34,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-20,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,40	20,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,0	66,77	-6,05	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,60	25,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,60	-25,70	27,00	0,000	0,000
Hellfuel Retual	T65001	100%	1,000	7,0	34,55	-12,53	43,92	0,000	0,000
Hellfuel Disp	T65001	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T65001	100%	0,870	0,2	21,65	25,75	43,94	0,000	0,000
FW Chem Dosing Tank	T65001	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T65001	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	T65001	0%	1,060	0,0	35,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-65006	0%	1,000	0,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-9,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,28	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,28	+18,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533501	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	80,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	80,68	0,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-882503	0%	0,900	0,0	58,48	13,14	44,99	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-882501-02	0%	0,900	0,0	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-882502	0%	0,900	0,0	54,46	18,60	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-882501-01	0%	0,900	0,0	60,68	17,00	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,960	0,0	59,51	+13,30	43,82	0,000	0,000
Glycol Regeneration Package	UO-123302	0%	1,060	0,0	57,13	10,93	45,30	0,000	0,000
TEG Contactor Towers	UO-123301	0%	1,060	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,89	30,50	45,06	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	0%	0,820	0,0	63,67	+10,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	D-5111024/B/C	0%	1,025	0,0	56,30	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	0%	1,025	0,0	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		0%	0,880	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,00	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	0%	0,650	0,0	79,28	31,85	48,80	0,000	0,000
Process Gas Module 'B'	UO-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,650	0,0	79,28	2,06	48,88	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	58,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,000	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	+19,27	8,80
P-1-15	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-05	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	82,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	82,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	82,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	82,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	82,44	3,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	82,44	2,50	29,25
Inj. Custm. (M/Fld) Riser UMB6"	S15	N	0,0	82,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	82,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	82,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	82,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	82,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	82,44	-14,25	29,25
Optical Cable	S32	N	0,0	82,44	-16,00	29,25
SPARE	W1	D	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,25	6,00
Elect. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	46,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	85%	10,0	84,56	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	80,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	3P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 8)	6P	450	85,3	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 6)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,46	13,72
Chain Onboard	0	7200	1364,6	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	36,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	85,31	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	85,40	-31,16	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,68
Mech Workshop	TT-05	10%	10,0	85,07	-23,86	37,56
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,56
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,56
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,86
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,93	37,68
Control Caisson Laydown Area	TT-13	10%	0,6	61,69	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,89	8,51	43,67
Dock Locker	MD-02	5%	1,4	48,89	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-36,00	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,60	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,59
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
Anchors (2 off)	0		30,0	35,31	0,00	12,20
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			30,0	35,31	0,00	12,20

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Loading Condition: Maximum Operating Condition
Draft = 22.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	56503,2	57,048	-0,025	22,11	0,012	0,069

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,03 m
MCTC	25,17 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

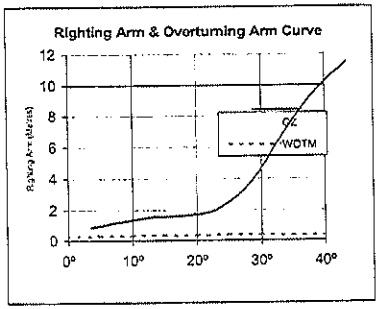
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,12 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,68 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m



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DIVISÃO JUDICIÁRIA

Petrobras 36 - Roncador Field Development
Operations Manual - Volume 7
Loading Condition: Maximum Operating Condition

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	279,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	279,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,38	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water 1K	1P	100%	1,000	193,8	84,98	-29,99	25,99	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,98	29,99	25,00	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	25,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	585,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2363,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,0	97,01	-15,02	30,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,0	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,92	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,80	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOGrill	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	70,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,24	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,24	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	76,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	33,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,86	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	46,60	-22,17	45,00	0,000	0,000
Wt Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
Wt Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122306	100%	0,900	15,0	89,57	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	100%	0,900	15,0	89,58	9,55	40,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,23	0,000	0,000
Lub Oils	0			88,2	84,90	5,10	40,58	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,06	-23,73	27,60	0,000	0,000
Deaerator Tower (Stard)	C-52001	100%	1,000	37,9	85,06	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-28,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	28,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hollfuel Reluel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Hollfuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T65101	100%	1,000	2,0	83,02	-5,30	52,01	0,000	0,000
FW Cooling ExansionTank	T65102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,000	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,060	12,1	65,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	48,47	0,000	0,000
Non Structural Tanks	0			32,1	56,62	0,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	467,6	92,29	-26,51	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-16,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533501	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	9,53	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UO-582503	100%	0,900	38,5	38,48	19,14	44,86	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-582501-02	100%	0,900	28,4	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-582502	100%	0,900	19,2	54,46	18,66	37,39	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-582501-01	100%	0,900	16,5	50,66	17,60	37,32	0,000	0,000
Chemical Inje Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	10,0	48,12	2,33	03,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,6	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-60212	100%	0,000	10,6	50,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,060	13,3	57,13	19,83	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,060	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,075	14,5	62,88	30,56	45,96	0,000	0,000
Drains Treatment Package	A43001	100%	1,000	14,4	97,80	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,94	22,58	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,9	88,30	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	80,46	-0,84	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	30,66	-21,00	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	79,28	31,85	48,66	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,28	16,85	48,66	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,28	2,05	48,66	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	50,39	0,00	43,00	0,000	0,000
Process Content				1867,0	78,05	-11,05	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		103,5	24,34	-16,27	8,80
P-1-16	N4,N5,N6	Y		103,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		103,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		105,7	24,34	17,37	0,50
I-1-01	E1,E2	Y		106,5	41,28	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	40,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		106,5	55,28	18,57	6,22
I-1-04	E17,E18	Y		106,5	57,28	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,04	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		106,5	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,6	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,6	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,6	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,6	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,6	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,6	92,44	-5,00	29,25
I-1-02	S22,S23	Y		106,5	92,44	-8,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		166,9	92,44	-11,25	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,9	92,44	-14,25	29,25
SPARE (RJG-613)	S29,S30,S31	Y		166,9	92,44	-16,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	N		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-38,20	9,00
Elactr. Cable	W3	Y		25,8	62,17	-18,57	8,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	9,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,0	53,59	-18,57	8,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	8,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-38,29	9,00
Connected Risers	0			5851,8	60,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,38	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	80,00	24,00	41,12
Warehouse	SD-03	20%	30,0	65,73	-15,82	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,92	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,92	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	28,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5397	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	105,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	105,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1757,2	57,85	1,54	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	86,40	-31,10	37,68
Mech Store 2	TT-04	30%	9,3	81,40	-32,16	37,88
Mech Workshop	TT-05	20%	19,8	65,97	-23,86	37,58
Production Warehouse	TT-06	60%	36,0	80,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,61	24,00	37,58
Store	TT-08	5%	4,1	62,90	31,44	37,68
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	76,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,5	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @ TT	0		169,3	70,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	25%	5,6	65,89	8,91	43,67
Dock Locker	MD-02	35%	9,7	48,89	8,91	43,67
Marine Equipment Storage	MD-03	60%	27,8	48,89	8,91	43,67
Crew & Stores @ MD	0		42,9	51,10	8,91	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,60	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,40	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-9,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	80%	127,2	39,37	1,29	43,00
Helicopter & Laydown Areas	0		299,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

COPIA FIEL DO ORIGINAL

Loading Condition: Fairlead Inspection Draft (18.0m)
Misc Deck Load 300 Tonnes

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	76%	680	6,78	30,71	4,77	0,006	0,017
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	62%	351	26,94	-36,18	3,79	0,001	0,012
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	1%	7	51,06	-30,81	0,05	0,000	0,000
SW Ballast 11S	644,7	1,025	1%	7	51,06	30,81	0,05	0,000	0,000
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	5%	30	61,72	30,81	0,24	0,004	0,012
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				4713	15,01	1,88	5,33	0,01	0,04

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,005	0,014
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	4713,4	15,0	1,9	5,33	0,012	0,041
Displacement	**50389,5**	**57,123**	**-0,023**	**24,12**	**0,017**	**0,056**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	22,43 m
MCTC	17,52 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

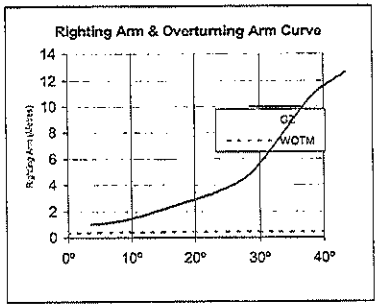
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	24,14 m	24,18 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	3,46 m	3,92 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	1,05 m



DOCUMENTO ORIGINAL

Petrobras 36 - Roncador Field Development
Operations Manual - Volume 7
Loading Condition: Fairlead Inspection Draft (18.0m)

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	270,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	270,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,85	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,85	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	28,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	580,3	51,05	-20,01	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,65	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	10,4	78,94	-17,70	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,85	35,81	0,000	0,000
Fuel Oil	0			2363,0	56,79	0,04	5,08	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	97,61	-19,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	70,08	-3,56	30,04	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,56	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UO-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UO-122305	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	6,10	45,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,9	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,8	78,49	26,31	0,38	0,000	0,000
W.L.ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	33,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,6	82,99	-0,11	27,75	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,00	-26,70	27,00	0,000	0,000
Helifuel Reflet	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T99305	100%	0,870	0,2	21,88	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	84,97	-0,20	52,91	0,000	0,000
Oily Water Separators	UE-86201/V-862202	100%	0,900	1,4	89,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	54,82	6,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	467,8	92,29	-28,51	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-16,53	47,34	0,002	0,008
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,40	0,000	0,000
Production Caisson	TD-533001	100%	0,900	47,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	100%	0,900	38,6	68,46	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	91,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,5	50,08	17,00	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	91,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,035	19,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,6	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,0	50,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,83	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,28	0,000	0,000
Safety Gas KO Drum Package	V-122001	100%	0,975	14,5	92,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,09	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,03	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-16,30	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,94	22,65	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,96	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	50,9	56,30	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,97	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,40	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	99,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,905	43,3	31,61	23,90	46,53	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	79,28	31,55	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,28	2,05	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	40,1	56,39	0,00	43,00	0,000	0,000
Process Content				1687,0	78,65	-11,85	43,74	0,005	0,014

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	+15,27	6,50
P-1-16	N4,N5,N6	Y		163,5	24,34	-12,27	6,50
P-1-06	N7,N8,N9	Y		163,5	24,34	14,75	6,50
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		108,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,29	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	82,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	82,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	82,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,0	82,44	6,75	29,25
P-1-08 (M/Fld) Riser 6"	S12	Y		93,8	82,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	82,44	2,50	29,25
inj. Cuim. (M/Fld) Riser UMB6"	S15	Y		14,4	82,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	82,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	82,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y		166,9	82,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,9	82,44	-11,25	29,25
SPARE (R/G-S13)	S29,S30,S31	Y		166,9	82,44	-14,25	29,25
Optical Cable	S32	Y		11,8	82,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-36,29	8,00
Elect. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		199,2	48,77	-36,29	8,00
Connected Risers	0			5051,8	66,28	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	15,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,00	24,00	41,12
Warehouse	SD-03	20%	30,0	85,75	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,62
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,62
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,32	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,32	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	3382	1021,9	56,36	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,91	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,8	86,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,8	85,07	-23,86	37,58
Production Warehouse	TT-06	90%	39,9	89,61	24,15	37,58
Production Warehouse	TT-07	80%	21,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	62,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,98
Electrical Workshop	TT-10	30%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	8,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	91,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		169,3	78,84	4,33	37,80

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,9	65,89	8,51	43,87
Dock Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	80%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,19	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,00	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,97	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,00	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,48	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

PETROBRAS
CÓPIA FIEL DO DOCUMENTO ORIGINAL
PROPRIEDADE DA PETROBRAS - PROIBIDA A REPRODUÇÃO SEM AUTORIZAÇÃO

TRIBUNAL

1 INTRODUCTION

This addendum summarises the results of the Inclining Test performed for the Petrobras-36 FPU. The Inclining Test was carried out in the Baie Des Sept Îles, Canada on the 17th October 1999. The unit was moored in a sheltered location and ballasted down to a draft of 18.94m where the displacement of the rig was calculated at 51820.4 metric tonnes. The deadweight survey was completed and the inclining test was then performed with environmental forces almost negligible.

The Inclination Test was performed using concrete weights moved longitudinally over the deck of the Unit. A total of eight shifts were made and the moment-tangent plots (appendix C) clearly showed that accurate results had been obtained.

The results were analysed both without and with a correction for the wind conditions recorded at the time. Statistical analysis indicates that when the inclining moments are corrected for wind effects a slightly better trend line is obtained. The GM_{fluid}, calculated from the gradient of the moment-tangent plot, is 6.87m. The resulting lightship weight and centre of gravity have been calculated as:

Lightship	**31164.5 Tonnes**
LCG (Fr. Fpp)	**60.62 Metres**
TCG (+ve stbd)	**-0.30 Metres**
VCG (Fr. USK)	**29.67 Metres**

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

2 REVISED LOADING CONDITIONS

A review of the operational stability of the Unit indicates all stability margins have increased positively to the following values:

Condition	Draft (m)	Δ (tonnes)	VCG (m)	Allow VCG (m)	Margin (m)
Operating	22.0	56503	22.18	23.04	0.86
Fairlead Inspection	18.0	50389	24.18	25.23	1.05
Transit	11.0	37083	27.06	44.90	17.84

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

2885
MARITIMO

1 INTRODUCTION

Following discussions with AMEC/Petromec it has been confirmed that the Base Oil tanks N1 Port & Stbd will be used as emergency dump for the separators (Ref P&ID AMK-398 Rev E). The valves XV65002 & XV65004, connecting these two tanks will be normally closed. Therefore it is correct to consider the tanks to be damaged singularly.

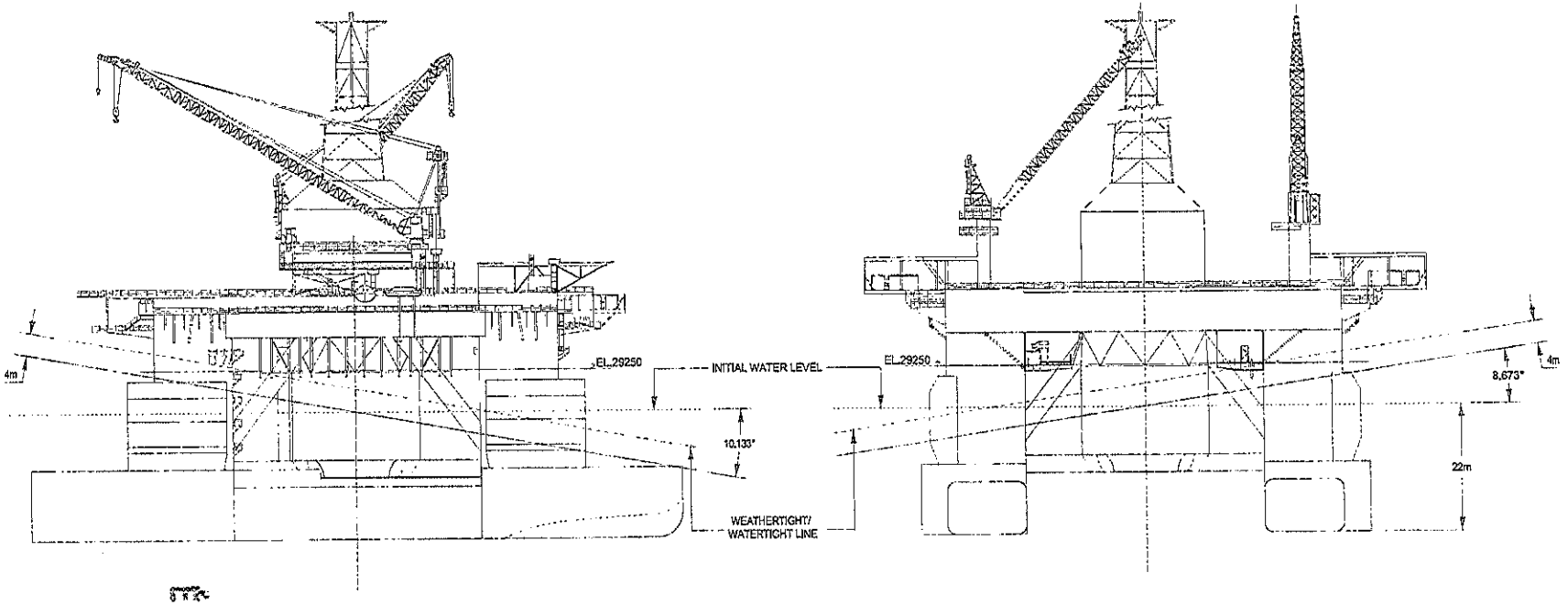
2 RESULTS

In the event of emergency dump the valves will be open which would mean a condition whereby if damage to the unit occurred both tanks should be considered flooded. Normally this would be classed as a temporary condition, however an analysis has been performed to demonstrate that there is no significant loss of stability in this condition. The results of the analysis for simultaneous flooding of are summarised below

Heel Axis (Deg)	Angle of Loll (Deg)	1st Intercept (Deg)	2nd Intercept (Deg)	Angle @ IMO Dam. Ratio >2 (Deg)	DF Angle (Deg)	DF Clear. (m)	Allow KG (m)
50	1.4	3.7	>40	11°	17.16	10.76	22.99

From the above results in can be seen that the allowable VCG will decrease by 5cm from that reported in the main body of the report, which is insignificant.

É CÓPIA FIEL DO DOCUMENTO ORIGINAL



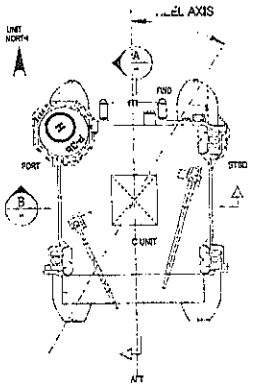
VIEW A

WORST CASE TRIM ANGLE
DAMAGE TO SW BALLAST TANK 22
T_{MID} =22.78m (AFTER DAMAGE)

VIEW B

WORST CASE HEEL ANGLE
DAMAGE TO SW BALLAST TANK 22
T_{MID} =22.78m (AFTER DAMAGE)

"COPIA FIEL DEL DOCUMENTO ORIGINAL"



GENERAL NOTES

1. BASED ON RESULTS FROM STABILITY ANALYSIS (DOC. No. RL-3010.38-1320-960-NBD-908) -REV B
2. DAMAGED CONDITIONS REPORTED ARE 'ACCIDENTAL FLOODING CASES', THESE GIVE THE WORST ANGLE OF INCLINATION.

REV	DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
D	25.01.99	A.P.C.	SCL	LSC	AT	
C	3.02.99	REVISED A.P.D	SCL	LSC	AT	
B	26.11.98	A.P.D	SCL	LSC	AT	
A	17.11.98	LSC	R-S	AT	AT	

PETROBRAS | P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

NOBLE DENTON | Petromec | ABEC

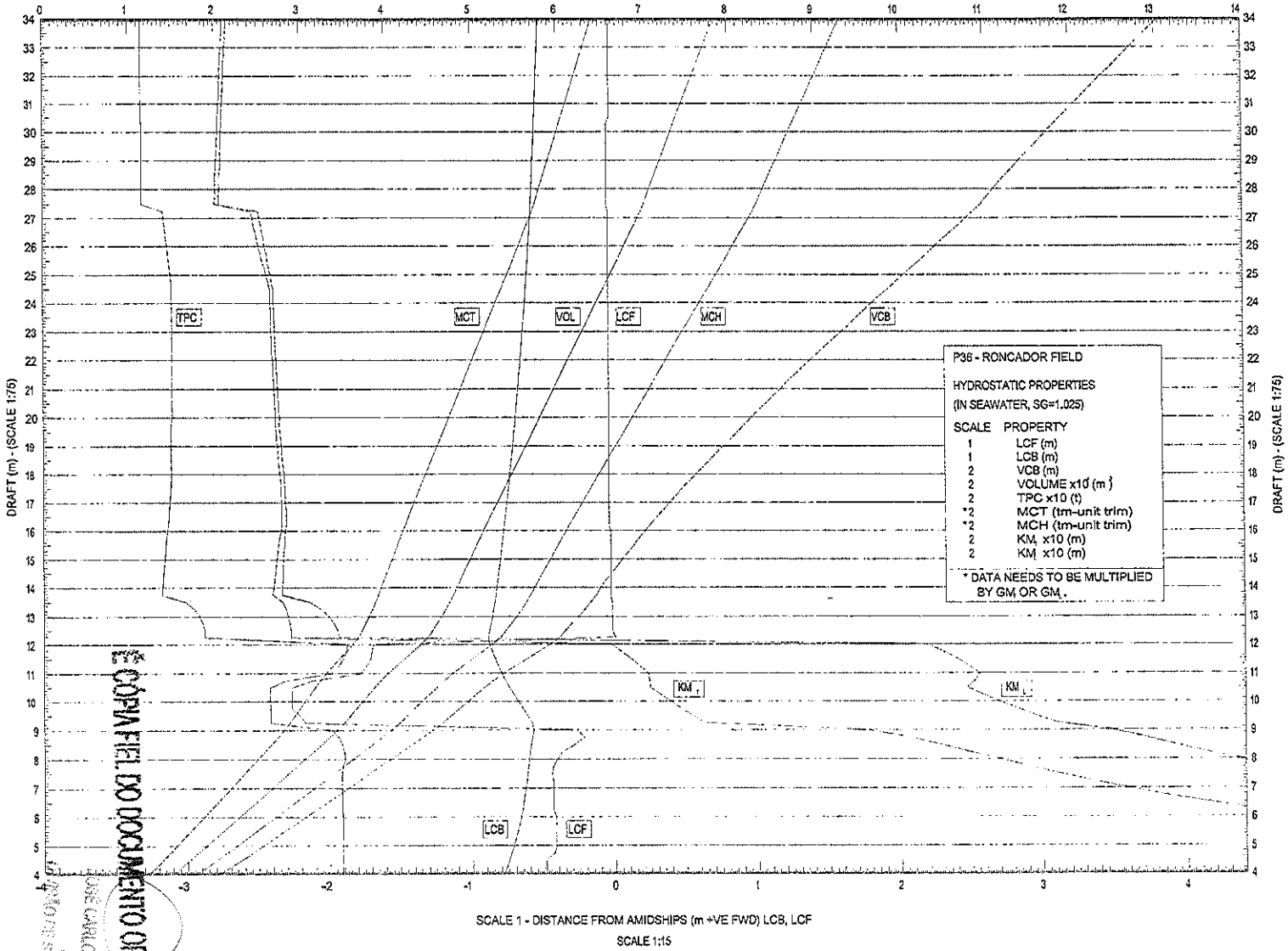
TITLE
INCLINATION OF UNIT
WORST DAMAGE
CONDITION

DRAWN DATE: SCE/NOV.97
CHECKED DATE: MSF/ 24.3.99
APPROVED DATE: AT/ 24.3.99
SCALE: N.T.S.

DRAWING NUMBER: DE-3010.38-1320-941-NBD-368-01
REV: C

SCALE 1 - VOLUME, TPC, MCT, MCH, KM ,,KM , VCB

SCALE 1:25



P36 - RONCADOR FIELD

HYDROSTATIC PROPERTIES

(IN SEAWATER, SG=1.025)

SCALE	PROPERTY
1	LCF (m)
1	LCB (m)
2	VCB (m)
2	VOLUME x10 (m)
2	TPC x10 (t)
*2	MCT (tm-unit trim)
*2	MCH (tm-unit trim)
2	KM T x10 (m)
2	KM L x10 (m)

* DATA NEEDS TO BE MULTIPLIED BY GM OR GM L.

SCALE 1 - DISTANCE FROM AMIDSHIPS (m +VE FWD) LCB, LCF

SCALE 1:15

COPIA FIEL DO DOCUMENTO ORIGINAL

CROSS CURVES OF STABILITY FOR 90° ROLL AXIS	DE-3010.38-1320-041-NBD-371-03	
CROSS CURVES OF STABILITY FOR 45° ROLL AXIS	DE-3010.38-1320-041-NBD-371-02	
CROSS CURVES OF STABILITY FOR 0° ROLL AXIS	DE-3010.38-1320-041-NBD-371-01	

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRWN BY	CHK'D BY	APP'D BY	APP'D CLIENT
A	25.01.99	A.F.C.	SCE	USC	AT	
0	10/07	LLC	SCE	USC	MSE	

BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

NOBLE DENTON | Petrobras | ABEC

HTML

DRAWN DATE: SCE/OCT.07

DEPENDENT: MSE/24.3.99

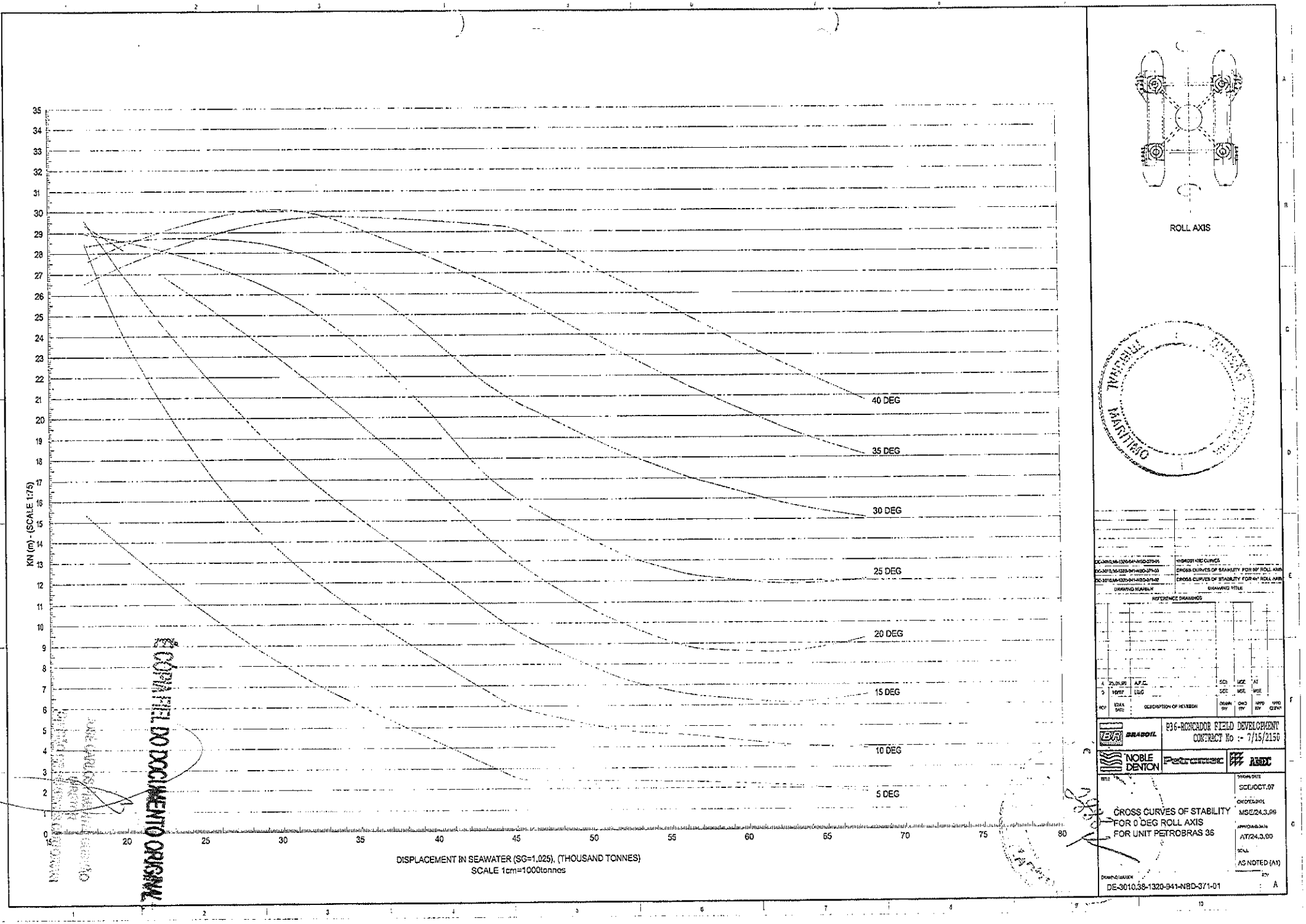
APPROVAL DATE: AT/24.3.99

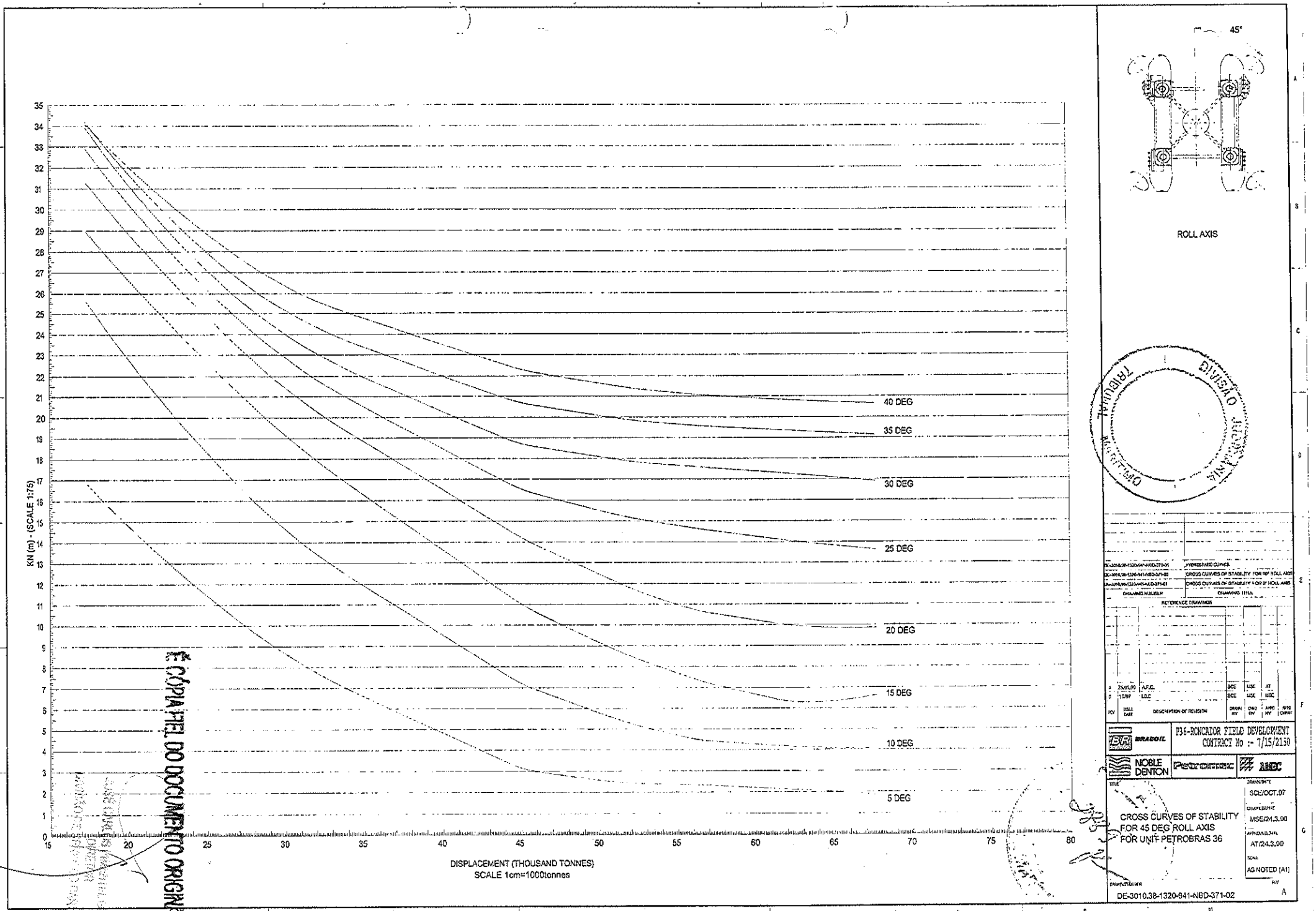
SCALE: AS NOTED (A1)

HYDROSTATIC CURVES FOR UNIT PETROBRAS 36

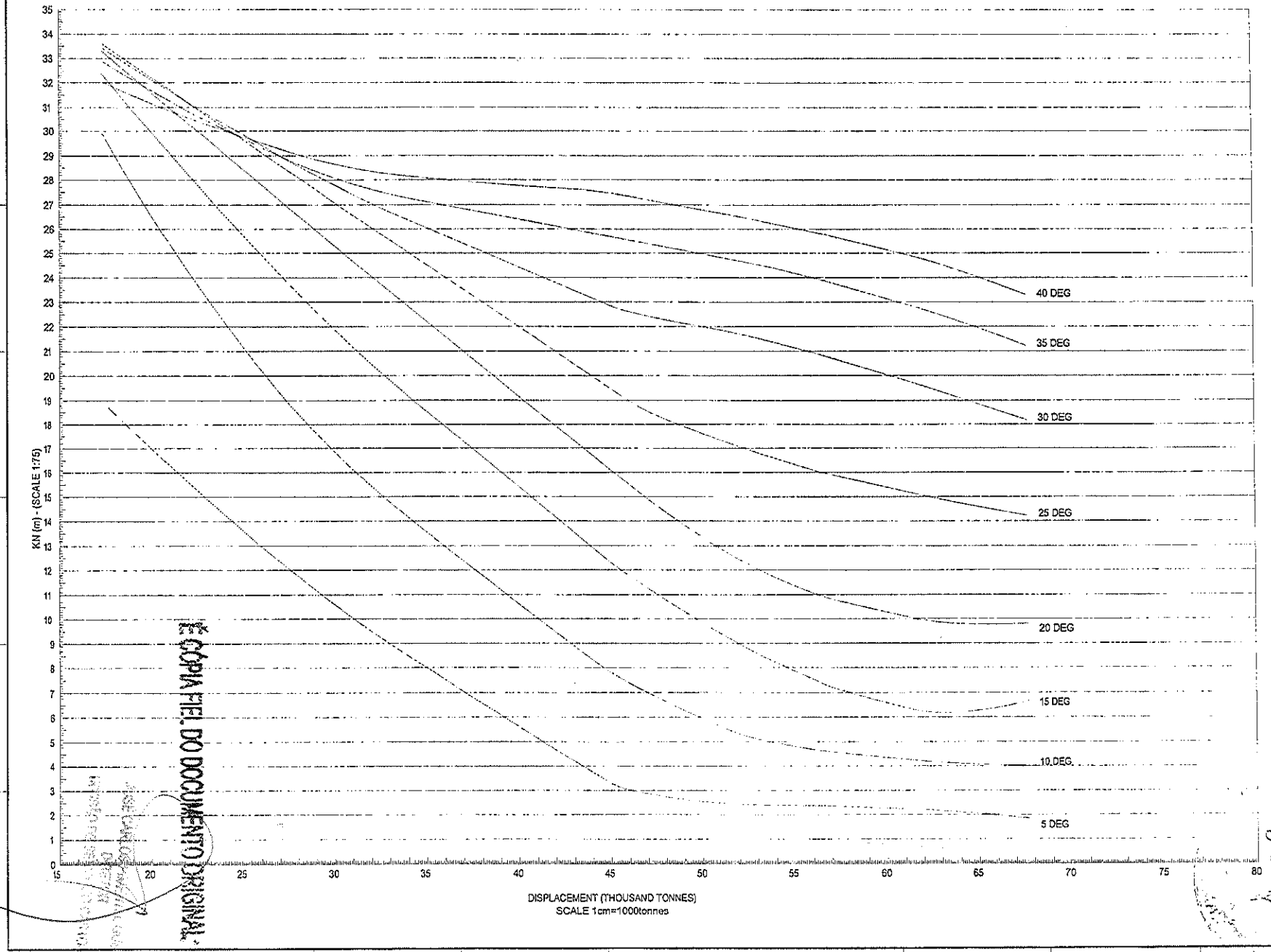
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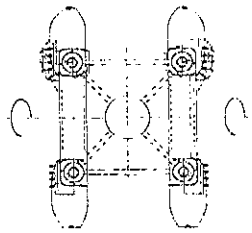
REV: A


KN (m) - (SCALE 1:75)
40 DEG
35 DEG
30 DEG
25 DEG
20 DEG
15 DEG
10 DEG
5 DEG
DISPLACEMENT IN SEAWATER (SG=1.025), (THOUSAND TONNES)
SCALE 1cm=1000tonnes
ROLL AXIS
HYDROSTATIC CURVES
CROSS CURVES OF STABILITY FOR 90° ROLL AXIS
CROSS CURVES OF STABILITY FOR 45° ROLL AXIS
DRAWING NUMBER
DRAWING TITLE
REFERENCE DRAWINGS
DESCRIPTION OF REVISION
P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150
PETROBRAS
NOBLE DENTON
AMEC
CROSS CURVES OF STABILITY
FOR 0 DEG ROLL AXIS
FOR UNIT PETROBRAS 36
DRAWN DATE
SCE/OCT.07
CHECKED DATE
MSE/24.3.08
APPROVED DATE
AT/24.3.08
SCALE
AS NOTED (A1)
DRAWING NUMBER
DE-3010.38-1320-941-NBD-371-01
REV
A



TRIBUNAL DE CONTAS DA UNIÃO
DIVISÃO DE PROCESSOS
CÓPIA FIEL DO DOCUMENTO ORIGINAL





ROLL AXIS

CÓPIA FIEL DO DOCUMENTO ORIGINAL

REV	DOC DATE	DESCRIPTION OF REVISION	DRAWN INV	CHKD INV	APPD INV	APPD CLIENT
A	25.01.08	A.F.C.	SCC	MSE	AT	
0	10/07	I.D.C.	SCC	MSE	MSE	

DRAWING NUMBER	DRAWING TITLE
DE-3010.38-1320-941-NBD-370-01	HYDROSTATIC CURVES
DE-3010.38-1320-941-NBD-371-02	CROSS CURVES OF STABILITY FOR 45° ROLL AXIS
DE-3010.38-1320-941-NBD-371-01	CROSS CURVES OF STABILITY FOR 0° ROLL AXIS

REFERENCE DRAWINGS

BRASOIL — P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

NOBLE DENTON | Petromec | AMEC

TITLE
CROSS CURVES OF STABILITY FOR 90 DEG ROLL AXIS FOR UNIT PETROBRAS 36

DRAWN DATE: SCC/OCT.07
CHECKED DATE: MSE/24.3.08
APPROVED DATE: AT/24.3.08
SCALE: AS NOTED (A1)

DRAWING NUMBER: DE-3010.38-1320-941-NBD-371-03
REV: A

DIRETORIA DE PORTOS E COSTAS
TRIBUNAL MARÍTIMO

1 SUMMARY

As a result of the continuing increase in lightship weight, modifications to process content, and operational requirements for the unit to meet all the stability requirements of RINA, IMO and Brasoil additional subdivision of a number of compartments is required.

Upon completion of the subdivision work described below the unit should have an adequate stability margin for operations at the Roncador field provided that there is no further increase in lightship or operational loads.

2 VOID SPACE 32 STBD 1 & PORT 1

This compartment is located on the forward columns from El. 19.812m up to 30.480m. The compartment requires to be split into two. This is best achieved by making the forward longitudinal bulkhead watertight, as shown on the attached drawing. Subject to survey and final engineering calculations this should be relatively straight forward to close and reinforce. Additional bilge drainage and vent pipes will be needed along with water detection sensors.

3 SUBDIVISION OF VS46A / VS45A PORT & STBD

This compartment is the part of the new fairlead box extension. On the capacity plans and as shown on the attached sketch the compartments have been designated as VS45a/VS46a and VS64/VS65, however, they are currently separated by a non-watertight bulkhead. To meet the stability requirements this watertight bulkhead must be closed as shown on the attached sketch.

The design of the bulkhead was such that it could become an watertight boundary if necessary. Therefore only the manway needs to be changed to a manhole and a small work platform added. Additional bilge drainage and vent pipes will be needed along with water detection sensors.

É CÓPIA FIEL DO DOCUMENTO ORIGINAL
JOSÉ CARLOS PINHEIRO CARNEIRO
DIRETOR
DIVISÃO DE SERVIÇOS AUXILIARES

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

AMEC Process and Energy

NOBLE DENTON

P36 - RONCADOR FIELD DEVELOPMENT

Contract No: 7/15/2151

Document No. RL-3010.38-1320-960-NBD-908	Issue: C	Page: 1 of 204

Document Title:

STABILITY ANALYSIS

Issue Rev	Issue or Revision Description	Orig. By	Date	Ch'kd By	Date	App'd By	Date	App'd By	Date
C	Final		1.12.99		1.12.99		1.12.99		
B	Revised AFD	MSE	15.3.99	AT	15.3.99	AT	15.3.99		
A	Approved for Design	MSE	11/9/97	DHL	11/9/97	AT	11/9/97		
0	Issued for IDC	MSE	30/7/97	AT	31/7/97	AT	31/7/97		

NDE

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

TRIBUNAL MARITIMO

REVISION CHANGE NOTICES

Rev.	Location Changes	Brief Description of Change
A	All Areas	Report updated to reflect comments by Petrobras (COM-P36-NO21/97) and substantial increase in weight/vcg leading to a new hull envelope.
B	All Areas	Re-analysis as a result of re-location and change in anchoring system, addition of Production Caisson; change of export risers to SCRs. GENSTAB Model updated to reflect structural additions; Allowable VCG Curves updated; loadcases derived as per Brasoil Memo(Ref 9); Additional loadcases removed for inclusion in Operations Manual; ballast sequences also removed for inclusion in Operations Manual.
C	Section 6.2 Appendix F Appendix G Appendix K Addendum 4	Riser Loading Table Revised Revised for new lightship weight Revised loading condition VCG's plotted Revised for new lightship weight New Addendum.

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

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2 INTRODUCTION 5
3 REFERENCE DOCUMENTS 5
4 CHARACTERISTICS OF UNIT 6
5 ANALYSIS METHODOLOGY 7
6 RESULTS 13
7 CONCLUSIONS 17

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APPENDIX B GENSTAB VERIFICATION OF AS-BUILT MODEL
APPENDIX C HYDROSTATICS
APPENDIX D ANALYSIS LOADING CONDITIONS
APPENDIX E WIND OVERTURNING MOMENTS & DOWNFLOOD POINTS
APPENDIX F LOADING CONDITIONS FOR WORST RISER INSTALLATION SEQUENCES
APPENDIX G ALLOWABLE KG CURVES
APPENDIX H 22.0M OPERATING/SURVIVAL RESULTS SUMMARY
APPENDIX I 18.0M OPERATING/INSPECTION RESULTS SUMMARY
APPENDIX J 11.0M TRANSIT RESULTS SUMMARY
APPENDIX K LOADING CONDITIONS FOR TRANSITION DRAFTS 12.5M → 20.0M

Addendum 1 SUMMARY OF SUBDIVISION REQUIREMENTS
Addendum 2 HYDROSTATIC & CROSS CURVES; WORST ANGLE INCLINATION
Addendum 3 CROSS FLOODING OF BASE OIL TANKS DURING ESD
Addendum 4 INCLINED LIGHTSHIP RESULTS & REVISED LOADING CONDITIONS

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

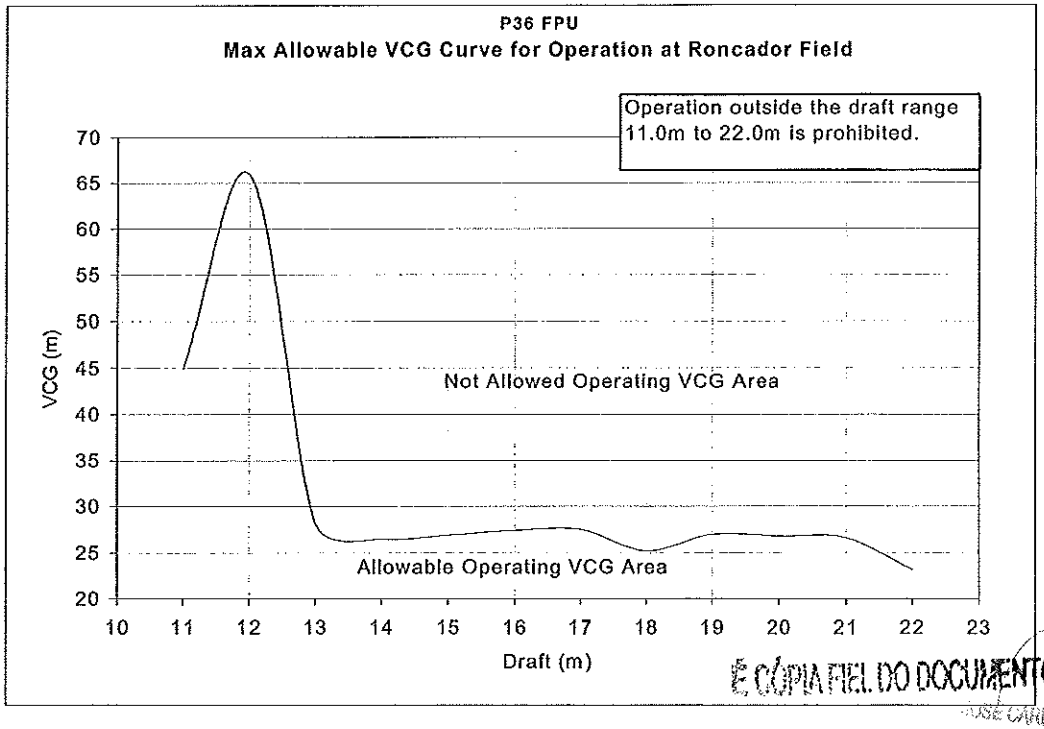
DIVISÃO JUDICIÁRIA
Fl. nº 2355
TRIBUNAL MARÍTIMO

1 SUMMARY

The P36 (formerly the Spirit of Columbus) is upgraded for production operations in the Roncador Field. To accommodate the additional equipment and fluids, the hull of the P36 has required modification.

A stability analysis of the modified P36 FPU has been performed in accordance with the RINa rules for *Column Stabilised Units* (Ref. 6) and IMO MODU Code 1991 (Ref 8). Three drafts corresponding to 22.0m, 18.0m, 11.0m have been analysed and show that after the unit has been modified and subdivided it meets all stability requirements and has an adequate positive stability margin.

Draft	Assumed KG	GMT_{corr} / GML_{corr}	Allowable VCG Range	Limiting Condition
22.00	22.41	4.37/4.69	23.04	Damaged Stability
18.00	24.56	3.03/3.37	25.23	Damaged Stability
11.00	27.08	44.31/82.17	44.90	Damaged Stability



É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

2 INTRODUCTION

The semi-submersible unit P36 (hereinafter referred to as the Unit) is upgraded for production duties offshore Brazil in the Roncador Field. The average water depth at this location is 1362 m. Following revisions to the reservoir and seabed characteristics the Unit has been relocated and a number of appendages added (Ref 9). Therefore a re-assessment of the Unit's stability is required.

The Stability Analysis has been performed in accordance with RINa Rules (Ref. 6), Brasoil Naval Design Premise (Ref. 2) and the IMO MODU Code (Ref.8).

3 REFERENCE DOCUMENTS

1	ET-3010.56-1200.941-PPC-001	Metocean Data
2	ET-3010.38-1200-940-PPC-001	Naval Design Premise
3	RL-3010.38-1320-960-NBD-904	Force and Motion Analysis Rev D
4	---	F&G Stability Report For Spirit of Columbus
5	ET-3010.38-1200-940-PPC-001	General Technical Specifications (Annex X: Deviations to Design)
6	Registro Italiano Navale	Rules for the Classification of Mobile Offshore Drilling Units and other similar units
7	RL-1320-915-NBD-903-01	Weight Control Report (Jan 99, Rev R)
8		International Maritime Organisation Code for the Construction and Equipment of Mobile Offshore Drilling Units 1989 & 1991 Amendments
9	Brasoil Memorandum (23/6/98)	Modifications Due to New Reservoir Data

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

4 CHARACTERISTICS OF UNIT

Length Overall	112.776 m
Width Overall	77.724 m
Elevation to Main Deck	42.672 m
Elevation to U/S Tank	35.052 m
Elevation to Spider Deck	29.250 m
Main Deck Length (inc. Ext.)	83.104 m
Main Deck Width	70.580 m
Pontoon Length	112.776 m
Pontoon Width	14.110 m
Pontoon Height outboard/inboard of columns	12.192 /9.144 m
Column Width	13.716 m
Transverse Distance between Columns	54.864 m
Longitudinal Distance Between Columns	56.388 m
Transit Draft	11.0 m
Transit Displacement	37083 tonnes
Inspection Draft	18.0 m
Inspection Displacement	50390 tonnes
Operational/Survival Draft	22.0 m
Operational/Survival Displacement	56503 tonnes

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

5 ANALYSIS METHODOLOGY

Stability analysis of the P36 was performed using the Noble Denton in-house software, GENSTAB Suite. Features of the program include:

GZ curves, Area ratios, Allowable KGs, Downflood angles and Angles of wind intercepts.

The analysis was carried out in accordance with RINa and Brasoil stipulated requirements (ref. 2).

5.1 GENSTAB MODEL

A computer model of the P36 was created using the as-built lightship as a base model (the verification of this model is in Appendix B). Lightship modifications include upper, lower and lateral extension of fairlead boxes (see drawings in Appendix A); a floored central caisson, pontoon stability boxes, pontoon, forward and SCR riser supports, chain pipes, sea water lift and disposal caissons, and the new production caisson. Further individual tanks have been modelled in order to assess damage to the unit.

Plots in Appendix A show the modified Unit. Appendix A also shows model axes, heel axes and wind axes for the unit.

5.2 HYDROSTATICS

(Ref. Brasoil NDP sect. 5 sheet 3/13)

Hydrostatic data produced by GENSTAB is attached in Appendix C. This includes:

Displacement, LCB, TCB, VCB, WPA, LCF, TCF, KMT, KML, TPC, MCTC & MCHC.

The last two values are reported as a function of the Metacentric Height GM.

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

5.3 STABILITY ANALYSIS

5.3.1 Wind Overturning Moments (WOTM)

(Ref. RINa 3.3.2/3.3.3)

Calculations for WOTM have been carried out over a range of heel angles from 0 to 40 degrees in 2.5° intervals. The projected horizontal and vertical wind areas have been calculated based on DMI model test data for projected beam and bow areas and modified according to the additional areas.

In calculating wind forces, the following procedures were taken:

- The projected areas of all columns was included; i.e. no shielding allowances were made
- The block projected area of a clustering of deckhouses was used in lieu of the calculation of each individual area
- For wind heeling moments, the levers of the wind overturning force were taken vertically from the centre of pressure of all surfaces exposed to the wind to the centre of lateral resistance or, when available, the centre of hydrodynamic pressure

Horizontal and vertical areas for a specific heel axis can be combined to produce a WOTM curve for range of heel axes using the following equation:

$$GZ_{\omega} = GZ_V \cos^2\omega + GZ_H \sin\omega\cos\omega$$

Once WOTM curves have been produced for bow and beam winds, the GENSTAB software can interpolate to create WOTM curves for a variety of heel axes. For this it uses the API-RP-2SK equation 'A.5':

$$F_\phi = F_x\left[\frac{2\cos^2\phi}{1+\cos^2\phi}\right] + F_y\left[\frac{2\sin^2\phi}{1+\sin^2\phi}\right]$$ where

F_ϕ = force due to oblique movement
F_x = force on bow due to a bow environment
F_y = force on beam due to beam environment
ϕ = direction of approaching environment (degree off bow)

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

5.3.2 Loading conditions (Ref. Brasoil NDP sect. 4 sheet 2/13)

There are two main groups for the consideration of loading conditions:

- Lightship of Unit
- Variable load

The original lightweight is updated to consider all modifications in the platform. The latest modified lightship condition has been extracted from the January 1999 weight control report (Revision R - Ref. 7).

The variable loads consider:

- All the related items presented in the Operations Manual with the required modifications
- Risers vertical loads
- Mooring lines vertical tension
- Mooring + miscellaneous loads on board
- Operational and Process Related Liquids
- Crew and Stores
- Sea Water Ballast

The following loading conditions have been considered in the stability analysis. These are used purely for the determination of the allowable VCG values.

Draft (m)	**Condition**	**Displacement** (tonnes)	**LCG** from FP (m)	**TCG** to Port (m)	**VCG** from Keel (m)
22.0 m	Operating/Survival	56503	57.05	0.03	22.41
18.0 m	Inspection of Fairleads	50390	57.12	0.03	24.56
11.0 m	Transit	37083	57.18	0.02	27.08

A detailed breakdown of variable loads and loading conditions is contained in Appendix D.

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

5.3.3 Environmental conditions

For the intact stability storm condition analysis, the operational wind speed to be considered is the 100 year extreme 1 minute mean in accordance with Brasoil NDP. For temporary and damage stability conditions, a wind velocity of 50 knots is considered. The table below summarises the wind speeds used to assess the intact and damaged stability conditions. The wind data extracted from the Metocean Report (Ref. 1) is shown in Appendix E.

Draft	Intact Wind Speed (m/s)	Damaged Wind Speed (m/s)
22.0	41.70	25.7
18.0	41.70	25.7
11.0	35.0	25.7

5.3.4 Intact stability

The intact analysis is performed for 3 drafts (22, 18, and 11 metres). Environmental headings for the range: 0 to 180 degrees in 10 degree increments are investigated.

The aim of analysis is to :

- Demonstrate adequate stability for all cases
- Identify most critical heel axis for each condition
- Determine allowable VCG curves
- Check downflooding clearances

Intact Criteria to be met:

- Minimum area ratio of 1.3
- Maintain a minimum GM of 1.5m for operations; GM = 0.3m for temporary conditions.

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

5.3.5 Damage stability

Similar analyses to be undertaken as intact case, except a range of tanks need to be damaged in each case, according to RINa criteria (Ref. RINa 3.6.3) and the following criteria met:

- The angle of inclination after damage shall not be greater than 17°.
- Any openings within 4m of the water line shall be made weathertight.
- The righting moment curve shall have from the first intercept to the lesser of the second intercept or angle of downflooding a range of at least 7°. Within this range the righting moment curve shall reach a value of twice the wind heeling moment curve, both being measured at the same angle. (i.e GZ/WOTM > 2)

In assessing the damage stability of column-stabilised units, the following extent of damage is considered per RINa rules Para. 3.5.2 and 3.6.3.

COMPARTMENT / TANK	22.0m	18.0m	11.0m
S.W. Bal Tk 1s			✓
S.W. Bal Tk 4s			✓
S.W. Bal Tk 13s			✓
S.W. Bal Tk 18s			✓
S.W. Bal Tk 20s			✓
S.W. Bal Tk 21s			✓
S.W. Bal Tk 22s			✓
S.W. Bal Tk 18s & Chain Locker 10S			✓
Void Space 46S	✓	✓	
Void Space 45S	✓	✓	
Void Space 65S	✓	✓	
Void Space 64S	✓	✓	
Void Space 32 Stbd 3	✓	✓	
Void Space 46aS	✓	✓	
Void Space 45aS	✓	✓	
Base Oil Tank N1	✓	✓	

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5.3.6 Accidental Flooding Stability

A similar analysis to the damaged is undertaken whereby any tank could be damaged and the resulting heel angle is determined. In accordance with IMO MODU Code section 3.4.4 no wind heeling effect has been added.

The vessel must however satisfy the following criteria:

- Angle of inclination after flooding should not be greater than 25°
- Any opening below the waterline should be made watertight
- A range of positive stability should be provided, beyond the calculated angle of inclination in these conditions of at least 7°.

From inspection of the ballast arrangements in Appendix D and the tank/compartment plans in Appendix A the worst possible tanks to accidentally flood are Sea Water Ballast tanks no's 21 and 22. As all other tanks are inboard and of less capacity, these two tanks could cause the greatest angle of inclination. Therefore they have been assessed for accidental flooding.

5.4 MINIMUM FREEBOARD REQUIREMENTS

The minimum freeboard requirements shall comply with section 3.9.4 of RINa rules.

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6 RESULTS

6.1 HYDROSTATICS

Hydrostatics for the modified unit are reported in Appendix C.

6.2 LOADING CONDITIONS/BALLAST SEQUENCES

Loading Conditions for 22.0m, 18.0m and 11.0m draft have been computed based on the variable loads summarised in Appendix D.

For the 22.0m draft all riser installation sequence scenarios specified have been checked (Ref. 9).

Riser Configuration	Total Riser Weight (Tonnes)	LCG (metres)	TCG (metres)	VCG (metres)	Stability Margin (metres)
2 x SCR & Port Risers installed	737	56.77	-26.97	6.23	+1.76
2 x SCR & Port and Aft risers installed	2632	82.45	-7.47	22.80	+0.94
2 x SCR & Port, Aft and Starboard Risers Installed	4452	71.92	3.19	16.06	+0.94
2 x SCR & All Risers Installed	5052	66.26	2.77	15.15	+0.86

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6.3 INTACT STABILITY RESULTS

The following limiting intact stability results were determined, including the allowable increase in KG. The full results are contained in Appendices H, I,& J.

Draft (m)	Heel Axis (Deg)	Wind Heading (Deg)	1st Intercept (Deg)	2nd Intercept (Deg)	DF Angle (Deg)	DF Clearance (m)	Area Ratio	Allow KG (m)
22.0	40	50	4.80	>40	18.02	10.89	1.79	23.18
18.0	20	70	7.95	>40	23.94	14.56	2.68	27.61
11.0	0	90	0.54	>40	30.37	22.75	12.85	23.18

Summary of Intact Stability Assessment for Unit

6.4 DAMAGED STABILITY RESULTS

The limiting results of the damaged stability assessment are summarised below for each of the three drafts analysed:

Draft (m)	Damaged Compartment	Heel Axis (Deg)	Angle of Loll (Deg)	1st Intercept (Deg)	2nd Intercept (Deg)	Angle @ IMO Dam. Ratio >2 (Deg)	DF Angle (Deg)	DF Clear. (m)	Allow KG (m)
22.0	Base Oil N1	40	1.07	3.39	>40	11.0	17.70	11.02	23.04
18.0	VS 64S	340	<1.0	2.93	>40	8.0	23.96	15.65	25.23
11.0	SW18/CL10S	0	<1.0	1.00	>40	2.0	29.17	22.50	44.90

Summary of Damaged Stability Assessment

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6.5 ACCIDENTAL FLOODING STABILITY

Accidental flooding assessment has been carried out for both 22.0m and 18.0m drafts on the largest sea water ballast tanks SW 21S and SW 22S. All criteria have been met.

Draft (m)	Compartment	Heel Axis (Deg)	Angle of Loll (Deg)	Angle of Vanish. Stab. (Deg)	+ve Stability Range (deg)
22.0	SW 22S	50	13.28	>40	26.72
18.0	SW 22S	50	9.44	>40	30.56

Summary of Accidental Flooding Results

The central caisson has not been considered in the accidental flooding assessment as it will not cause any significant heel, only a loss of volume resulting in parallel sinkage of the unit.

6.6 DOWNFLOODING POINTS

Downflooding clearance is assessed at all stages of the stability analysis and reported in Appendices H, I, & J. The location of the downflooding points is shown in Appendix E.

6.7 TRANSITION DRAFTS

For the transition drafts of 12.5m, 14.5m and 20.0m the loading conditions have been checked in order to ensure that the GM is greater than the minimum allowable of 0.3m. The results are presenterd in Appendix K, along with the 22.0m draft – temporary condition - prior to riser installation and production.

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6.8 MAXIMUM ALLOWABLE VCG CURVES

From the results reported above the Allowable VCG curve can be plotted for operations at Roncador. This is based upon a full stability analysis of the above three loading conditions and GM limitations at other drafts assuming that these only occurred during transition stages of ballasting.

DRAFT	Assumed KG	KM_{solid}	GM_{solid}	Allow VCG	Limiting Condition
22.00	**22.41**	**26.80**	**4.37**	**23.04**	**Damaged Stability**
21.00	-	26.90	-	26.60	GM>0.3m (Transition)
20.00	-	27.10	-	26.80	GM>0.3m (Transition)
19.00	-	27.30	-	27.00	GM>0.3m (Transition)
18.00	**24.56**	**27.60**	**3.03**	**25.23**	**Damaged Stabiity**
17.00	-	27.80	-	27.50	GM>0.3m (Transition)
16.00	-	27.70	-	27.40	GM>0.3m (Transition)
15.00	-	27.20	-	26.90	GM>0.3m (Transition)
14.00	-	26.80	-	26.50	GM>0.3m (Transition)
13.00	-	28.50	-	28.20	GM>0.3m (Transition)
12.00	-	66.20	-	65.90	GM>0.3m (Transition)
11.00	**27.08**	**70.50**	**43.41**	**44.90**	**Damaged Stability**

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7 CONCLUSIONS

The analysis demonstrates that with the additional structures added to the profile of the unit and with the necessary subdivision of tanks, the unit will have adequate stability for operations at the Roncador Field.

The allowable VCG curves derived in this analysis are only suitable for operations at the Roncador Field in the range 11.0m to 22.0m. Within this range the drafts not analysed in this report are assumed only to occur during transition ballast conditions.

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2906
TRIBUNAL DE SETIMO

APPENDIX A

DRAWINGS

(18 PAGES)

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APPENDIX B

GENSTAB VERIFICATION OF AS-BUILT MODEL

(11 PAGES)

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APPENDIX C

HYDROSTATICS

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APPENDIX D

ANALYSIS LOADING CONDITIONS

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APPENDIX E

WIND OVERTURNING MOMENTS & DOWNFLOOD POINTS

(15 PAGES)

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APPENDIX F

LOADING CONDITIONS FOR WORST RISER INSTALLATION SEQUENCES

(9 PAGES)

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APPENDIX G

ALLOWABLE KG CURVES

(1 PAGES)

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DIVISÃO DE SERVIÇOS NOTARIAIS

VISÃO JUDICIAL 2916 TRIBUNAL MARÍTIMO

APPENDIX H

22.0M OPERATING/SURVIVAL CONDITION

RESULTS SUMMARY

(CRITICAL GZ FOR EACH CASE ATTACHED)

(23 PAGES)

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APPENDIX I

18.0M OPERATING/INSPECTION CONDITION

RESULTS SUMMARY

(CRITICAL GZ FOR EACH CASE ATTACHED)

(23 PAGES)

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APPENDIX J

11.0M TRANSIT CONDITION

RESULTS SUMMARY

(CRITICAL GZ FOR EACH CASE ATTACHED)

(19 PAGES)

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ORIGINAL RUBRICADO

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APPENDIX K

LOADING CONDITIONS FOR TRANSITION DRAFTS 12.5M → 22.0M

(10 PAGES)

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ADDENDUM 1

SUMMARY OF INTERNAL SUBDIVISION

OF

P36 TO MEET REQUIREMENTS OF IMO/RINA

(4 PAGES)

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ADDENDUM 2

HYDROSTATIC & CROSS CURVES; WORST ANGLE INCLINATION

(FOR INFORMATION ONLY)

(5 PAGES)

TRIBUNAL MARÍTIMO
2934

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SUPREMO JUDICIÁRIA
2322
TRIBUNAL MARÍTIMO

ADDENDUM 3

CROSS FLOODING OF BASE OIL TANKS DURING ESD

(2 PAGES)

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DIRETOR
DIVISÃO DE SELEÇÃO E CONCURSOS

ADDENDUM 4

INCLINED LIGHTSHIP RESULTS & REVISED LOADING CONDITIONS

(8 PAGES)

CÓPIA FIEL DO DOCUMENTO ORIGINAL

NOBLE DENTON

Loading Condition: Typical Maintenance of Sea Chests - Close Port Fwd Upper & Lower, Port Midships and Port Aft Upper
Draft = 22.0m - No Change to Ballast Condition Required.

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	By	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	-14,5	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56488,7**	**57,063**	**-0,025**	**22,11**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	33,99 m
MCTC	25,15 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

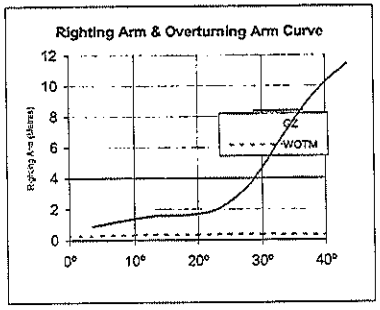
Draft Aft Perpendicular (INPUT)	22,18 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	-0,19°
Heel about centreline	-0,002 m
Trim About aft perp.	-0,376 m
Mean Draft Aft	22,178 m
Mean Draft @ Amidships	21,990 m
Mean Draft Forward	21,802 m

Statical Stability

Corrected VCG =	22,12 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,68 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m



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Petrobras 36 - Roncador Field D. pment

Operations Manual - Volume 7

Loading Condition: Typical Maintenance of Sea Chests - Close Port Fwd Upper & Lower, Port Midships and Port Aft Upper

NOBLE DENTON

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,38	-29,90	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,89	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,67	4,08	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,63	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,63	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	10,4	78,64	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,67	22,68	35,81	0,000	0,000
Fuel Oil	0			2393,5	56,79	0,04	5,00	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,91	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,05	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,84	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,84	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,8	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,55	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,90	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,90	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UO-122308	100%	0,900	15,0	89,07	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UO-122306	100%	0,900	15,0	89,08	0,65	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	9,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.I.L.ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L.ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,310	0,0	25,00	20,76	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,310	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,310	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,310	0,0	25,00	-20,76	27,00	0,000	0,000
Hellfuel Refuel	A58001	100%	0,870	7,0	34,55	-12,50	53,92	0,000	0,000
Hellfuel Disp	A58002	100%	0,870	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T58305	100%	0,870	0,2	21,66	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T58101	100%	1,000	2,0	63,02	-8,30	52,91	0,000	0,000
FW Cooling ExansionTank	T58102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TO-123301	50%	1,000	12,1	65,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533606	50%	1,000	8,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			37,4	36,82	0,28	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	467,5	92,29	-28,51	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533001	100%	0,900	47,9	64,74	-10,71	19,01	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	0,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-082503	100%	0,900	36,5	59,48	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	61,76	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,46	18,86	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	36,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,50	13,40	36,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,985	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	0,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Marink Separator	V-60212	100%	0,900	10,8	59,51	-19,50	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	37,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,86	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	30,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,65	22,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,620	7,9	63,87	-18,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	8,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	S-511102A/G/C	100%	1,025	58,9	56,39	5,25	20,06	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	164,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	39,66	-21,60	44,70	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,31	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,3	31,81	23,90	48,56	0,000	0,000
Process Gas Module "C"	UO-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module "B"	UO-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module "A"	UO-122305	100%	0,650	8,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,6	78,65	-11,85	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-16	N1,N2,N3	Y		163,2	24,34	-15,27	8,80
P-1-18	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-06	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		108,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	40,04	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,04	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,26	18,57	6,22
I-1-04	E17,E18	Y		108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	Y		166,0	62,84	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UM312"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,67	29,25
FUTURE (WI) F1/1	S24,S25	Y		108,6	92,44	-8,67	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		165,9	92,44	-11,25	29,25
SPARE (RJS-S13)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,0	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		100,9	71,63	-39,28	9,00
Elect. Cable	W3	Y		25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	33,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		196,2	48,77	-36,29	6,00
Connected Risers	0			5951,8	60,20	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	13,05	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,92	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	80,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	6P	337	63,9	91,05	-33,46	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,46	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	67,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	5S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,46	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,46	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,82	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,82	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	63,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,0	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,66	37,58
Production Warehouse	TT-06	60%	30,9	88,01	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	62,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	90%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,93	37,08
Central Caisson Laydown Area	TT-13	10%	0,0	61,80	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,92	37,58
Instrumentation Workshop	TT-15	10%	8,1	73,19	23,00	37,58
Crew & Stores @TT	0		169,3	78,94	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,5	65,89	8,51	43,67
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,67
Marine Equipment Storage	MD-03	60%	27,9	48,89	8,51	43,67
Crew & Stores @ MD	0		47,9	51,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,60	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,55	43,00
Misc Laydown 2	LD-03	40%	21,3	38,27	-11,25	43,00
Compression A Laydown	LD-04	20%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	38,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,67	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
Sea Chest Port Fwd Upper	0	-3,0	25,15	-21,34	0,86
Sea Chest Port Fwd Lower	0	-3,6	25,15	-21,34	2,29
Sea Chest Port Midships	0	-3,0	45,45	-21,34	5,33
Sea Chest Port Aft Upper	0	-3,6	87,63	-21,34	0,86
0	0	0,0	0,00	0,00	0,00
		-14,5	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Tank Capacity Tables

SW BALLAST TANK No. 1 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
30,5	11,56	-24,47	0,27	3,4	271,9	2001,0
68,9	11,27	-24,47	0,54	7,8	325,1	2340,5
110,3	11,11	-24,35	0,81	12,4	344,7	2497,7
139,0	10,41	-24,41	1,00	15,7	174,7	517,9
167,5	9,90	-24,45	1,21	18,9	176,1	528,8
196,4	9,53	-24,48	1,44	22,1	176,6	532,8
225,4	9,25	-24,50	1,67	25,4	176,7	533,7
254,3	9,04	-24,52	1,91	28,7	176,7	533,7
283,3	8,87	-24,53	2,15	32,0	177,1	536,8
312,3	8,73	-24,54	2,39	35,2	177,3	538,2
341,4	8,91	-24,55	2,63	38,5	177,3	538,1
370,4	8,51	-24,55	2,88	41,8	177,3	538,2
399,4	8,43	-24,56	3,12	45,0	177,3	538,1
428,4	8,35	-24,57	3,37	48,3	177,3	538,1
457,4	8,29	-24,57	3,62	51,6	177,3	538,2
486,5	8,23	-24,57	3,86	54,9	177,3	538,2
515,5	8,18	-24,58	4,11	58,1	177,3	538,2
544,5	8,14	-24,58	4,36	61,4	177,3	538,1
591,8	8,37	-24,56	4,75	66,7	425,6	3432,2
646,6	8,66	-24,54	5,17	72,9	425,6	3432,2
701,4	8,90	-24,52	5,57	79,1	425,6	3432,2
756,1	9,11	-24,50	5,95	85,3	425,6	3432,2
810,9	9,29	-24,49	6,30	91,5	425,6	3432,3
865,7	9,45	-24,47	6,65	97,6	425,6	3432,3
886,7	9,50	-24,47	6,78	100,0	425,6	3432,3

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

TANKCAP1.XLS

DIVISÃO JUDICIÁRIA TRIBUNAL MARÍTIMO

Tank Capacity Tables

SW BALLAST TANK No. 1 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
30,5	11,56	24,47	0,27	3,4	271,9	2001,0
68,9	11,27	24,47	0,54	7,8	325,1	2340,5
110,3	11,11	24,35	0,81	12,4	344,7	2497,7
139,0	10,41	24,41	1,00	15,7	174,7	517,9
167,5	9,90	24,45	1,21	18,9	176,1	528,8
196,4	9,53	24,48	1,44	22,1	176,6	532,8
225,4	9,25	24,50	1,67	25,4	176,7	533,7
254,3	9,04	24,52	1,91	28,7	176,7	533,7
283,3	8,87	24,53	2,15	32,0	177,1	536,8
312,3	8,73	24,54	2,39	35,2	177,3	538,2
341,4	8,91	24,55	2,63	38,5	177,3	538,1
370,4	8,51	24,55	2,88	41,8	177,3	538,2
399,4	8,43	24,56	3,12	45,0	177,3	538,1
428,4	8,35	24,57	3,37	48,3	177,3	538,1
457,4	8,29	24,57	3,62	51,6	177,3	538,2
486,5	8,23	24,57	3,86	54,9	177,3	538,2
515,5	8,18	24,58	4,11	58,1	177,3	538,2
544,5	8,14	24,58	4,36	61,4	177,3	538,1
591,8	8,37	24,56	4,75	66,7	425,6	3432,2
646,6	8,66	24,54	5,17	72,9	425,6	3432,2
701,4	8,90	24,52	5,57	79,1	425,6	3432,2
756,1	9,11	24,50	5,95	85,3	425,6	3432,2
810,9	9,29	24,49	6,30	91,5	425,6	3432,3
865,7	9,45	24,47	6,65	97,6	425,6	3432,3
886,7	9,50	24,47	6,78	100,0	425,6	3432,3

TANKCAP1.XLS

Tank Capacity Tables

SW BALLAST TANK No. 2 PORT

Volume		TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	0,0
27,2	8,09	-30,67	0,26	3,1	227,4	395,8
58,1	7,80	-30,68	0,52	6,6	250,1	523,0
91,2	7,60	-30,69	0,79	10,4	264,8	610,6
125,6	7,44	-30,70	1,05	14,3	270,3	650,9
161,3	7,31	-30,70	1,32	18,4	284,9	750,0
198,0	7,20	-30,70	1,58	22,6	287,8	785,7
235,0	7,11	-30,70	1,85	26,8	288,7	802,5
272,2	7,04	-30,70	2,11	31,0	288,8	809,1
309,5	6,99	-30,70	2,36	35,3	289,1	810,8
346,7	6,95	-30,70	2,62	39,5	289,2	811,3
384,0	6,92	-30,70	2,88	43,8	289,2	811,3
421,3	6,89	-30,70	3,13	48,0	289,2	811,3
458,6	6,87	-30,70	3,38	52,3	289,2	811,3
495,9	6,85	-30,70	3,64	56,5	289,2	811,2
533,1	6,83	-30,70	3,89	60,8	289,2	811,3
570,4	6,82	-30,70	4,14	65,0	289,2	811,3
607,7	6,80	-30,70	4,39	69,2	289,2	811,3
645,0	6,79	-30,70	4,65	73,5	289,2	811,3
682,2	6,78	-30,70	4,90	77,7	289,2	811,3
719,5	6,77	-30,70	5,15	82,0	289,2	811,3
755,9	6,77	-30,70	5,39	86,1	280,1	718,7
791,9	6,77	-30,71	5,64	90,2	280,1	718,7
827,8	6,78	-30,71	5,88	94,3	280,1	718,7
863,8	6,78	-30,71	6,13	98,4	280,1	718,7
877,6	6,78	-30,71	6,22	100,0	280,1	718,7

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

TANKCAP1.XLS

Tank Capacity Tables

SW BALLAST TANK No. 2 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
27,2	8,09	30,67	0,26	3,1	227,4	395,8
58,1	7,80	30,68	0,52	6,6	250,1	523,0
91,2	7,60	30,69	0,79	10,4	264,8	610,6
125,6	7,44	30,70	1,05	14,3	270,3	650,9
161,3	7,31	30,70	1,32	18,4	284,9	750,0
198,0	7,20	30,70	1,58	22,6	287,8	785,7
235,0	7,11	30,70	1,85	26,8	288,7	802,5
272,2	7,04	30,70	2,11	31,0	288,8	809,1
309,5	6,99	30,70	2,36	35,3	289,1	810,8
346,7	6,95	30,70	2,62	39,5	289,2	811,3
384,0	6,92	30,70	2,88	43,8	289,2	811,3
421,3	6,89	30,70	3,13	48,0	289,2	811,3
458,6	6,87	30,70	3,38	52,3	289,2	811,3
495,9	6,85	30,70	3,64	56,5	289,2	811,2
533,1	6,83	30,70	3,89	60,8	289,2	811,3
570,4	6,82	30,70	4,14	65,0	289,2	811,3
607,7	6,80	30,70	4,39	69,2	289,2	811,3
645,0	6,79	30,70	4,65	73,5	289,2	811,3
682,2	6,78	30,70	4,90	77,7	289,2	811,3
719,5	6,77	30,70	5,15	82,0	289,2	811,3
755,9	6,77	30,70	5,39	86,1	280,1	718,7
791,9	6,77	30,71	5,64	90,2	280,1	718,7
827,8	6,78	30,71	5,88	94,3	280,1	718,7
863,8	6,78	30,71	6,13	98,4	280,1	718,7
877,6	6,78	30,71	6,22	100,0	280,1	718,7

CONTROLLED DOCUMENT
TANKCAP1.XLS

Tank Capacity Tables

SW BALLAST TANK No. 3 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
30,7	16,76	-30,86	0,25	4,2	245,8	437,0
61,5	16,76	-30,86	0,50	8,4	245,8	437,0
92,2	16,76	-30,86	0,75	12,6	245,8	437,0
122,9	16,76	-30,86	1,00	16,9	245,8	437,0
153,6	16,76	-30,86	1,25	21,1	245,8	437,0
184,4	16,76	-30,86	1,50	25,3	183,8	217,3
208,3	16,70	-30,88	1,70	28,6	183,8	217,3
232,1	16,65	-30,90	1,91	31,9	183,8	217,3
256,0	16,61	-30,91	2,13	35,1	245,8	437,0
286,8	16,63	-30,90	2,41	39,3	245,8	437,0
317,5	16,64	-30,90	2,69	43,6	245,8	437,0
348,2	16,65	-30,90	2,96	47,8	245,8	437,0
378,9	16,66	-30,89	3,22	52,0	245,8	437,0
409,7	16,67	-30,89	3,49	56,2	245,8	437,0
440,4	16,68	-30,89	3,75	60,4	245,8	437,0
471,1	16,68	-30,89	4,01	64,6	245,8	437,0
501,9	16,69	-30,88	4,27	68,9	245,8	437,0
532,6	16,69	-30,88	4,53	73,1	245,8	437,0
563,3	16,70	-30,88	4,79	77,3	245,8	437,0
594,0	16,70	-30,88	5,04	81,5	245,8	437,0
624,8	16,70	-30,88	5,30	85,7	245,8	437,0
655,5	16,71	-30,88	5,56	89,9	245,8	437,0
686,2	16,71	-30,88	5,81	94,2	245,8	437,0
716,9	16,71	-30,88	6,06	98,4	245,8	437,0
728,7	16,71	-30,88	6,16	100,0	245,8	437,0

TANKCAP1.XLS

Tank Capacity Tables

SW BALLAST TANK No. 3 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
30,7	16,76	30,86	0,25	4,2	245,8	437,0
61,5	16,76	30,86	0,50	8,4	245,8	437,0
92,2	16,76	30,86	0,75	12,6	245,8	437,0
122,9	16,76	30,86	1,00	16,9	245,8	437,0
153,6	16,76	30,86	1,25	21,1	245,8	437,0
184,4	16,76	30,86	1,50	25,3	183,8	217,3
208,3	16,70	30,88	1,70	28,6	183,8	217,3
232,1	16,65	30,90	1,91	31,9	183,8	217,3
256,0	16,61	30,91	2,13	35,1	245,8	437,0
286,8	16,63	30,90	2,41	39,3	245,8	437,0
317,5	16,64	30,90	2,69	43,6	245,8	437,0
348,2	16,65	30,90	2,96	47,8	245,8	437,0
378,9	16,66	30,89	3,22	52,0	245,8	437,0
409,7	16,67	30,89	3,49	56,2	245,8	437,0
440,4	16,68	30,89	3,75	60,4	245,8	437,0
471,1	16,68	30,89	4,01	64,6	245,8	437,0
501,9	16,69	30,88	4,27	68,9	245,8	437,0
532,6	16,69	30,88	4,53	73,1	245,8	437,0
563,3	16,70	30,88	4,79	77,3	245,8	437,0
594,0	16,70	30,88	5,04	81,5	245,8	437,0
624,8	16,70	30,88	5,30	85,7	245,8	437,0
655,5	16,71	30,88	5,56	89,9	245,8	437,0
686,2	16,71	30,88	5,81	94,2	245,8	437,0
716,9	16,71	30,88	6,06	98,4	245,8	437,0
728,7	16,71	30,88	6,16	100,0	245,8	437,0

CONTROLLED DOCUMENT ORIGINAL
TANKCAP1.XLS

Tank Capacity Tables

SW BALLAST TANK No. 4 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
24,3	14,78	-36,10	0,26	3,0	82,9	991,5
54,2	14,44	-36,20	0,54	6,8	104,7	1250,6
86,4	14,24	-36,26	0,80	10,8	112,0	1372,0
119,6	14,11	-36,28	1,07	15,0	112,6	1422,6
153,0	14,02	-36,31	1,32	19,2	112,6	1436,9
186,5	13,96	-36,22	1,58	23,4	107,8	1324,5
218,8	13,89	-36,34	1,83	27,4	107,8	1324,5
251,2	13,83	-36,35	2,07	31,5	107,8	1324,5
283,5	13,79	-36,80	2,32	35,5	112,5	1437,0
317,0	13,78	-36,36	2,58	39,7	112,5	1437,0
350,4	13,77	-36,36	2,83	43,9	112,5	1437,0
383,9	13,76	-36,36	3,09	48,1	112,5	1437,0
417,3	13,76	-36,36	3,34	52,3	112,5	1437,0
450,8	13,75	-36,36	3,60	56,5	112,5	1437,0
484,3	13,75	-36,36	3,85	60,7	112,5	1437,0
517,7	13,74	-36,36	4,10	64,9	112,5	1437,0
551,2	13,74	-36,37	4,35	69,0	112,5	1437,0
584,6	13,74	-36,37	4,60	73,2	112,5	1437,0
618,1	13,74	-36,37	4,86	77,4	112,5	1436,9
651,6	13,73	-36,37	5,11	81,6	112,5	1436,9
685,0	13,73	-36,37	5,36	85,8	112,5	1437,0
718,5	13,73	-36,37	5,61	90,0	112,5	1436,9
752,0	13,73	-36,37	5,86	94,2	112,5	1436,9
785,4	13,73	-36,37	6,11	98,4	112,5	1436,9
798,3	13,73	-36,37	6,21	100,0	112,5	1436,9

ESTE DOCUMENTO É CÓPIA FIEL DO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 4 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
24,3	14,78	36,10	0,26	3,0	82,9	991,5
54,2	14,44	36,20	0,54	6,8	104,7	1250,6
86,4	14,24	36,26	0,80	10,8	112,0	1372,0
119,6	14,11	36,28	1,07	15,0	112,6	1422,6
153,0	14,02	36,31	1,32	19,2	112,6	1436,9
186,5	13,96	36,22	1,58	23,4	107,8	1324,5
218,8	13,89	36,34	1,83	27,4	107,8	1324,5
251,2	13,83	36,35	2,07	31,5	107,8	1324,5
283,5	13,79	36,80	2,32	35,5	112,5	1437,0
317,0	13,78	36,36	2,58	39,7	112,5	1437,0
350,4	13,77	36,36	2,83	43,9	112,5	1437,0
383,9	13,76	36,36	3,09	48,1	112,5	1437,0
417,3	13,76	36,36	3,34	52,3	112,5	1437,0
450,8	13,75	36,36	3,60	56,5	112,5	1437,0
484,3	13,75	36,36	3,85	60,7	112,5	1437,0
517,7	13,74	36,36	4,10	64,9	112,5	1437,0
551,2	13,74	36,37	4,35	69,0	112,5	1437,0
584,6	13,74	36,37	4,60	73,2	112,5	1437,0
618,1	13,74	36,37	4,86	77,4	112,5	1436,9
651,6	13,73	36,37	5,11	81,6	112,5	1436,9
685,0	13,73	36,37	5,36	85,8	112,5	1437,0
718,5	13,73	36,37	5,61	90,0	112,5	1436,9
752,0	13,73	36,37	5,86	94,2	112,5	1436,9
785,4	13,73	36,37	6,11	98,4	112,5	1436,9
798,3	13,73	36,37	6,21	100,0	112,5	1436,9

"COPIA FIEL DO DOCUMENTO ORIGINAL"
JOSÉ CARLOS LACERDA GOMES
CPF 010.

Tank Capacity Tables

SW BALLAST TANK No. 5 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
40,9	28,19	-24,38	0,26	16,0	306,2	1386,1
85,4	28,19	-24,25	0,51	33,3	352,0	1452,0
131,3	28,19	-24,17	0,77	51,2	368,2	1473,9
140,5	28,15	-24,03	0,83	54,8	2,9	184,3
147,9	28,11	-23,89	0,90	57,7	2,9	184,3
155,3	28,08	-23,77	0,99	60,5	2,9	184,3
163,7	28,03	-23,65	1,11	63,8	3,4	194,7
172,3	27,98	-23,53	1,24	67,1	3,4	194,7
180,8	27,94	-23,43	1,38	70,5	3,4	194,7
189,3	27,90	-23,34	0,53	73,8	3,4	194,7
197,9	27,86	-23,25	1,69	77,1	3,4	194,7
206,4	27,83	-23,18	1,86	80,5	3,4	194,7
214,0	27,81	-23,11	2,02	83,4	2,9	184,3
221,4	27,80	-23,05	2,18	86,3	2,9	184,3
228,8	27,79	-23,00	2,34	89,2	2,9	184,3
237,0	27,76	-22,94	2,53	92,4	3,4	194,7
245,6	27,74	-22,89	2,73	95,7	3,4	194,7
254,1	27,72	-22,84	2,93	99,0	3,4	194,7
256,6	27,71	-22,82	2,99	100,0	3,4	194,7

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 5 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
40,9	28,19	24,38	0,26	16,0	306,2	1386,1
85,4	28,19	24,25	0,51	33,3	352,0	1452,0
131,3	28,19	24,17	0,77	51,2	368,2	1473,9
140,5	28,15	24,03	0,83	54,8	2,9	184,3
147,9	28,11	23,89	0,90	57,7	2,9	184,3
155,3	28,08	23,77	0,99	60,5	2,9	184,3
163,7	28,03	23,65	1,11	63,8	3,4	194,7
172,3	27,98	23,53	1,24	67,1	3,4	194,7
180,8	27,94	23,43	1,38	70,5	3,4	194,7
189,3	27,90	23,34	0,53	73,8	3,4	194,7
197,9	27,86	23,25	1,69	77,1	3,4	194,7
206,4	27,83	23,18	1,86	80,5	3,4	194,7
214,0	27,81	23,11	2,02	83,4	2,9	184,3
221,4	27,80	23,05	2,18	86,3	2,9	184,3
228,8	27,79	23,00	2,34	89,2	2,9	184,3
237,0	27,76	22,94	2,53	92,4	3,4	194,7
245,6	27,74	22,89	2,73	95,7	3,4	194,7
254,1	27,72	22,84	2,93	99,0	3,4	194,7
256,6	27,71	22,82	2,99	100,0	3,4	194,7

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Tank Capacity Tables

SW BALLAST TANK No. 6 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
46,1	28,19	-30,86	0,25	5,2	368,7	1474,7
91,0	28,19	-30,87	0,50	10,3	367,0	1429,6
133,4	28,18	-30,90	0,74	15,0	343,9	1423,5
152,8	28,18	-31,03	0,86	17,2	150,1	935,0
171,0	28,18	-31,13	1,01	19,3	150,1	935,0
189,2	28,18	-31,22	1,18	21,3	150,1	935,0
207,4	28,19	-31,29	1,36	23,4	150,1	935,0
225,6	28,19	-31,35	1,55	25,4	150,1	935,0
243,8	28,19	-31,40	1,75	27,5	150,1	935,0
262,0	28,19	-31,45	1,96	29,5	150,1	935,0
280,2	28,19	-31,48	2,18	31,6	150,1	935,0
298,4	28,19	-31,52	2,39	33,7	150,1	935,0
316,6	28,19	-31,55	2,62	35,7	150,1	935,0
334,8	28,19	-31,57	2,84	37,8	150,1	935,0
353,1	28,19	-31,60	3,07	39,8	150,1	935,0
371,3	28,19	-31,62	3,30	41,9	150,1	935,0
389,5	28,19	-31,64	3,53	43,9	150,1	935,0
407,7	28,19	-31,65	3,76	46,0	150,1	935,0
425,9	28,19	-31,67	4,00	48,0	150,1	935,0
444,1	28,19	-31,68	4,23	50,1	150,1	935,0
462,3	28,19	-31,70	4,47	52,1	150,1	935,0
480,5	28,19	-31,71	4,71	54,2	150,1	935,0
498,7	28,19	-31,72	4,95	56,2	150,1	935,0
516,9	28,19	-31,73	5,19	58,3	150,1	935,0
523,9	28,19	-31,74	5,28	59,1	150,1	935,0

JOSÉ CARLOS PINHEIRO GUIMARÃES
DIRETOR
DIVISÃO DE SERVIÇOS CARTORIAIS
CÓPIA FIEL DO DOCUMENTO ORIGINAL

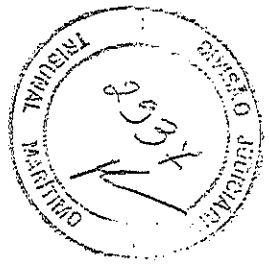
TRIBUNAL MARÍTIMO 9936

Tank Capacity Tables

SW BALLAST TANK No. 6 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
46,1	28,19	30,86	0,25	5,2	368,7	1474,7
91,0	28,19	30,87	0,50	10,3	367,0	1429,6
133,4	28,18	30,90	0,74	15,0	343,9	1423,5
152,8	28,18	31,03	0,86	17,2	150,1	935,0
171,0	28,18	31,13	1,01	19,3	150,1	935,0
189,2	28,18	31,22	1,18	21,3	150,1	935,0
207,4	28,19	31,29	1,36	23,4	150,1	935,0
225,6	28,19	31,35	1,55	25,4	150,1	935,0
243,8	28,19	31,40	1,75	27,5	150,1	935,0
262,0	28,19	31,45	1,96	29,5	150,1	935,0
280,2	28,19	31,48	2,18	31,6	150,1	935,0
298,4	28,19	31,52	2,39	33,7	150,1	935,0
316,6	28,19	31,55	2,62	35,7	150,1	935,0
334,8	28,19	31,57	2,84	37,8	150,1	935,0
353,1	28,19	31,60	3,07	39,8	150,1	935,0
371,3	28,19	31,62	3,30	41,9	150,1	935,0
389,5	28,19	31,64	3,53	43,9	150,1	935,0
407,7	28,19	31,65	3,76	46,0	150,1	935,0
425,9	28,19	31,67	4,00	48,0	150,1	935,0
444,1	28,19	31,68	4,23	50,1	150,1	935,0
462,3	28,19	31,70	4,47	52,1	150,1	935,0
480,5	28,19	31,71	4,71	54,2	150,1	935,0
498,7	28,19	31,72	4,95	56,2	150,1	935,0
516,9	28,19	31,73	5,19	58,3	150,1	935,0
523,9	28,19	31,74	5,28	59,1	150,1	935,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL



Tank Capacity Tables

SW BALLAST TANK No. 7 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
21,1	27,16	-36,02	0,26	3,8	58,8	560,9
43,7	27,07	-36,09	0,51	7,9	65,4	577,0
66,5	27,02	-36,12	0,77	12,0	66,8	580,2
89,3	27,00	-36,14	1,02	16,1	66,8	580,3
112,2	26,98	-36,15	1,27	20,2	66,8	581,2
135,0	26,97	-36,16	1,52	24,3	66,9	582,3
157,9	26,97	-36,16	1,77	28,4	66,9	582,4
180,7	26,96	-36,17	2,02	32,6	66,9	582,4
203,6	26,96	-36,17	2,27	36,7	66,9	582,4
226,4	26,95	-36,17	2,52	40,8	66,9	582,4
249,3	26,95	-36,17	2,77	44,9	66,9	582,4
272,1	26,95	-36,17	3,02	49,0	66,9	582,4
295,0	26,95	-36,18	3,27	53,1	66,9	582,4
317,9	26,95	-36,18	3,52	57,3	66,9	582,4
340,7	26,95	-36,18	3,77	61,4	66,9	582,3
363,6	26,94	-36,18	4,02	65,5	66,9	582,3
386,4	26,94	-36,18	4,27	69,6	66,9	582,2
409,3	26,94	-36,18	4,52	73,7	66,9	582,1
432,1	26,94	-36,18	4,77	77,8	66,9	581,9
455,0	26,94	-36,18	5,02	82,0	66,9	581,8
477,9	26,94	-36,18	5,27	86,1	66,9	581,7
500,7	26,94	-36,18	5,52	90,2	66,9	581,6
523,6	26,94	-36,18	5,77	94,3	66,9	581,5
546,4	26,94	-36,18	6,02	98,4	66,9	581,5
555,2	26,94	-36,18	6,12	100,0	66,9	581,5

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 7 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
21,1	27,16	36,02	0,26	3,8	58,8	560,9
43,7	27,07	36,09	0,51	7,9	65,4	577,0
66,5	27,02	36,12	0,77	12,0	66,8	580,2
89,3	27,00	36,14	1,02	16,1	66,8	580,3
112,2	26,98	36,15	1,27	20,2	66,8	581,2
135,0	26,97	36,16	1,52	24,3	66,9	582,3
157,9	26,97	36,16	1,77	28,4	66,9	582,4
180,7	26,96	36,17	2,02	32,6	66,9	582,4
203,6	26,96	36,17	2,27	36,7	66,9	582,4
226,4	26,95	36,17	2,52	40,8	66,9	582,4
249,3	26,95	36,17	2,77	44,9	66,9	582,4
272,1	26,95	36,17	3,02	49,0	66,9	582,4
295,0	26,95	36,18	3,27	53,1	66,9	582,4
317,9	26,95	36,18	3,52	57,3	66,9	582,4
340,7	26,95	36,18	3,77	61,4	66,9	582,3
363,6	26,94	36,18	4,02	65,5	66,9	582,3
386,4	26,94	36,18	4,27	69,6	66,9	582,2
409,3	26,94	36,18	4,52	73,7	66,9	582,1
432,1	26,94	36,18	4,77	77,8	66,9	581,9
455,0	26,94	36,18	5,02	82,0	66,9	581,8
477,9	26,94	36,18	5,27	86,1	66,9	581,7
500,7	26,94	36,18	5,52	90,2	66,9	581,6
523,6	26,94	36,18	5,77	94,3	66,9	581,5
546,4	26,94	36,18	6,02	98,4	66,9	581,5
555,2	26,94	36,18	6,12	100,0	66,9	581,5

Tank Capacity Tables

SW BALLAST TANK No. 11 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
31,8	51,05	-30,48	0,26	4,9	238,2	652,2
66,4	51,05	-30,62	0,51	10,3	273,8	683,3
102,1	51,05	-30,70	0,77	15,8	286,4	693,6
137,9	51,05	-30,74	1,03	21,4	286,7	693,9
173,8	51,05	-30,76	1,28	27,0	286,7	693,9
209,6	51,05	-30,78	1,53	32,5	286,7	693,9
245,5	51,05	-30,79	1,78	38,1	286,7	693,9
281,3	51,05	-30,80	2,03	43,6	286,7	693,9
317,2	51,05	-30,81	2,28	49,2	286,7	693,9
353,0	51,05	-30,81	2,53	54,8	286,7	693,9
388,9	51,05	-30,82	2,78	60,3	286,7	693,9
424,7	51,05	-30,82	3,03	65,9	286,7	693,9
460,6	51,05	-30,83	3,28	71,4	286,7	693,9
496,4	51,05	-30,83	3,54	77,0	286,7	693,9
532,0	51,05	-30,83	3,79	82,5	286,7	693,9
568,0	51,05	-30,83	4,03	88,1	280,8	689,0
603,1	51,05	-30,83	4,28	93,5	250,4	663,2
636,0	51,05	-30,82	4,51	98,7	187,0	601,7
644,7	51,05	-30,81	4,57	100,0	187,0	601,7

Tank Capacity Tables

SW BALLAST TANK No. 11 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
31,8	51,05	30,48	0,26	4,9	238,2	652,2
66,4	51,05	30,62	0,51	10,3	273,8	683,3
102,1	51,05	30,70	0,77	15,8	286,4	693,6
137,9	51,05	30,74	1,03	21,4	286,7	693,9
173,8	51,05	30,76	1,28	27,0	286,7	693,9
209,6	51,05	30,78	1,53	32,5	286,7	693,9
245,5	51,05	30,79	1,78	38,1	286,7	693,9
281,3	51,05	30,80	2,03	43,6	286,7	693,9
317,2	51,05	30,81	2,28	49,2	286,7	693,9
353,0	51,05	30,81	2,53	54,8	286,7	693,9
388,9	51,05	30,82	2,78	60,3	286,7	693,9
424,7	51,05	30,82	3,03	65,9	286,7	693,9
460,6	51,05	30,83	3,28	71,4	286,7	693,9
496,4	51,05	30,83	3,54	77,0	286,7	693,9
532,0	51,05	30,83	3,79	82,5	286,7	693,9
568,0	51,05	30,83	4,03	88,1	280,8	689,0
603,1	51,05	30,83	4,28	93,5	250,4	663,2
636,0	51,05	30,82	4,51	98,7	187,0	601,7
644,7	51,05	30,81	4,57	100,0	187,0	601,7

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 13 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
31,8	61,72	-30,48	0,26	4,9	238,2	652,2
66,4	61,72	-30,62	0,51	10,3	273,8	683,3
102,1	61,72	-30,70	0,77	15,8	286,4	693,6
137,9	61,72	-30,74	1,03	21,4	286,7	693,9
173,8	61,72	-30,76	1,28	27,0	286,7	693,9
209,6	61,72	-30,78	1,53	32,5	286,7	693,9
245,5	61,72	-30,79	1,78	38,1	286,7	693,9
281,3	61,72	-30,80	2,03	43,6	286,7	693,9
317,2	61,72	-30,81	2,28	49,2	286,7	693,9
353,0	61,72	-30,81	2,53	54,8	286,7	693,9
388,9	61,72	-30,82	2,78	60,3	286,7	693,9
424,7	61,72	-30,82	3,03	65,9	286,7	693,9
460,6	61,72	-30,83	3,28	71,4	286,7	693,9
496,4	61,72	-30,83	3,54	77,0	286,7	693,9
532,0	61,72	-30,83	3,79	82,5	286,7	693,9
568,0	61,72	-30,83	4,03	88,1	280,8	689,0
603,1	61,72	-30,83	4,28	93,5	250,4	663,2
636,0	61,72	-30,82	4,51	98,7	187,0	601,7
644,7	61,72	-30,81	4,57	100,0	187,0	601,7

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Tank Capacity Tables

SW BALLAST TANK No. 13 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
31,8	61,72	30,48	0,26	4,9	238,2	652,2
66,4	61,72	30,62	0,51	10,3	273,8	683,3
102,1	61,72	30,70	0,77	15,8	286,4	693,6
137,9	61,72	30,74	1,03	21,4	286,7	693,9
173,8	61,72	30,76	1,28	27,0	286,7	693,9
209,6	61,72	30,78	1,53	32,5	286,7	693,9
245,5	61,72	30,79	1,78	38,1	286,7	693,9
281,3	61,72	30,80	2,03	43,6	286,7	693,9
317,2	61,72	30,81	2,28	49,2	286,7	693,9
353,0	61,72	30,81	2,53	54,8	286,7	693,9
388,9	61,72	30,82	2,78	60,3	286,7	693,9
424,7	61,72	30,82	3,03	65,9	286,7	693,9
460,6	61,72	30,83	3,28	71,4	286,7	693,9
496,4	61,72	30,83	3,54	77,0	286,7	693,9
532,0	61,72	30,83	3,79	82,5	286,7	693,9
568,0	61,72	30,83	4,03	88,1	280,8	689,0
603,1	61,72	30,83	4,28	93,5	250,4	663,2
636,0	61,72	30,82	4,51	98,7	187,0	601,7
644,7	61,72	30,81	4,57	100,0	187,0	601,7

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Tank Capacity Tables

SW BALLAST TANK No. 16 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
39,2	84,85	-24,30	0,26	15,7	289,0	1250,8
81,5	84,80	-24,14	0,51	32,6	316,1	1247,1
124,6	84,76	-24,05	0,77	49,9	330,9	1269,0
133,7	84,80	-23,90	0,83	53,6	2,9	184,3
141,1	84,83	-23,77	0,91	56,5	2,9	184,3
148,5	84,86	-23,65	1,00	59,5	2,9	184,3
157,9	84,90	-23,53	1,12	63,2	3,4	194,7
165,4	84,94	-23,42	1,25	66,3	3,4	194,7
174,0	84,98	-23,32	1,40	69,7	3,4	194,7
182,5	85,01	-23,22	1,56	73,1	3,4	194,7
191,0	85,04	-23,14	1,72	76,5	3,4	194,7
199,6	85,07	-23,07	1,90	79,9	3,4	194,7
207,2	85,09	-23,00	2,06	83,0	2,9	184,3
214,6	85,10	-22,95	2,22	85,9	2,9	184,3
221,9	85,11	-22,89	2,38	88,9	2,9	184,3
230,1	85,12	-22,84	2,58	92,2	3,4	194,7
238,7	85,15	-22,79	2,78	95,6	3,4	194,7
247,2	85,16	-22,74	2,98	99,0	3,4	194,7
249,7	85,17	-22,72	3,04	100,0	3,4	194,7

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TRIBUNAL MARÍTIMO

Tank Capacity Tables

SW BALLAST TANK No. 16 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
39,2	84,85	24,30	0,26	15,7	289,0	1250,8
81,5	84,80	24,14	0,51	32,6	316,1	1247,1
124,6	84,76	24,05	0,77	49,9	330,9	1269,0
133,7	84,80	23,90	0,83	53,6	2,9	184,3
141,1	84,83	23,77	0,91	56,5	2,9	184,3
148,5	84,86	23,65	1,00	59,5	2,9	184,3
157,9	84,90	23,53	1,12	63,2	3,4	194,7
165,4	84,94	23,42	1,25	66,3	3,4	194,7
174,0	84,98	23,32	1,40	69,7	3,4	194,7
182,5	85,01	23,22	1,56	73,1	3,4	194,7
191,0	85,04	23,14	1,72	76,5	3,4	194,7
199,6	85,07	23,07	1,90	79,9	3,4	194,7
207,2	85,09	23,00	2,06	83,0	2,9	184,3
214,6	85,10	22,95	2,22	85,9	2,9	184,3
221,9	85,11	22,89	2,38	88,9	2,9	184,3
230,1	85,12	22,84	2,58	92,2	3,4	194,7
238,7	85,15	22,79	2,78	95,6	3,4	194,7
247,2	85,16	22,74	2,98	99,0	3,4	194,7
249,7	85,17	22,72	3,04	100,0	3,4	194,7

ESTA É PEÇA DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 17 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
46,1	84,58	-30,86	0,25	8,8	386,7	1474,7
91,0	84,58	-30,87	0,50	17,4	367,0	1429,6
133,4	84,60	-30,90	0,74	25,5	343,9	1404,1
152,8	84,59	-31,03	0,86	29,2	150,1	935,0
171,0	84,59	-31,13	1,01	32,6	150,1	935,0
189,2	84,59	-31,22	1,18	36,1	150,1	935,0
207,4	84,59	-31,29	1,36	39,6	150,1	935,0
225,6	84,59	-31,35	1,55	43,1	150,1	935,0
243,8	84,59	-31,40	1,75	46,5	150,1	935,0
262,0	84,59	-31,45	1,96	50,0	150,1	935,0
280,2	84,59	-31,48	2,18	53,5	150,1	935,0
298,4	84,59	-31,52	2,39	57,0	150,1	935,0
316,6	84,59	-31,55	2,62	60,4	150,1	935,0
334,8	84,59	-31,57	2,84	63,9	150,1	935,0
353,1	84,59	-31,60	3,07	67,4	150,1	935,0
371,3	84,59	-31,62	3,30	70,9	150,1	935,0
389,5	84,59	-31,64	3,53	74,3	150,1	935,0
407,7	84,59	-31,65	3,76	77,8	150,1	935,0
425,9	84,59	-31,67	4,00	81,3	150,1	935,0
444,1	84,59	-31,68	4,23	84,8	150,1	935,0
462,3	84,59	-31,70	4,47	88,2	150,1	935,0
480,5	84,59	-31,71	4,71	91,7	150,1	935,0
498,7	84,59	-31,72	4,95	95,2	150,1	935,0
516,9	84,59	-31,73	5,19	98,7	150,1	935,0
523,9	84,59	-31,74	5,28	100,0	150,1	935,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 17 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
46,1	84,58	30,86	0,25	8,8	386,7	1474,7
91,0	84,58	30,87	0,50	17,4	367,0	1429,6
133,4	84,60	30,90	0,74	25,5	343,9	1404,1
152,8	84,59	31,03	0,86	29,2	150,1	935,0
171,0	84,59	31,13	1,01	32,6	150,1	935,0
189,2	84,59	31,22	1,18	36,1	150,1	935,0
207,4	84,59	31,29	1,36	39,6	150,1	935,0
225,6	84,59	31,35	1,55	43,1	150,1	935,0
243,8	84,59	31,40	1,75	46,5	150,1	935,0
262,0	84,59	31,45	1,96	50,0	150,1	935,0
280,2	84,59	31,48	2,18	53,5	150,1	935,0
298,4	84,59	31,52	2,39	57,0	150,1	935,0
316,6	84,59	31,55	2,62	60,4	150,1	935,0
334,8	84,59	31,57	2,84	63,9	150,1	935,0
353,1	84,59	31,60	3,07	67,4	150,1	935,0
371,3	84,59	31,62	3,30	70,9	150,1	935,0
389,5	84,59	31,64	3,53	74,3	150,1	935,0
407,7	84,59	31,65	3,76	77,8	150,1	935,0
425,9	84,59	31,67	4,00	81,3	150,1	935,0
444,1	84,59	31,68	4,23	84,8	150,1	935,0
462,3	84,59	31,70	4,47	88,2	150,1	935,0
480,5	84,59	31,71	4,71	91,7	150,1	935,0
498,7	84,59	31,72	4,95	95,2	150,1	935,0
516,9	84,59	31,73	5,19	98,7	150,1	935,0
523,9	84,59	31,74	5,28	100,0	150,1	935,0

ESTA É UMA CÓPIA DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 18 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
21,1	85,61	-35,97	0,26	3,8	58,8	560,3
43,7	85,71	-36,09	0,51	7,9	65,5	577,8
66,5	85,75	-36,12	0,77	12,0	66,9	581,7
89,4	85,78	-36,14	1,02	16,1	66,9	581,7
112,2	85,79	-36,15	1,27	20,2	66,9	581,7
135,1	85,80	-36,16	1,52	24,3	66,9	581,7
157,9	85,81	-36,16	1,77	28,4	66,9	581,7
180,8	85,82	-36,17	2,02	32,6	66,9	581,7
203,6	105,82	-36,17	2,27	36,7	66,9	581,7
226,5	85,82	-36,16	2,52	40,8	66,9	581,7
249,3	85,82	-36,17	2,77	44,9	66,9	581,7
272,2	85,83	-36,17	3,02	49,0	66,9	581,7
295,0	85,83	-36,18	3,27	53,1	66,9	581,7
317,9	85,83	-36,18	3,52	57,3	66,9	581,7
340,7	85,83	-36,18	3,77	61,4	66,9	581,7
363,6	85,83	-36,18	4,02	65,5	66,9	581,7
386,4	85,83	-36,18	4,27	69,6	66,9	581,7
409,3	85,83	-36,18	4,52	73,7	66,9	581,7
432,1	85,84	-36,18	4,77	77,8	66,9	581,6
455,0	85,84	-36,18	5,02	82,0	66,9	581,7
477,8	85,84	-36,18	5,27	86,1	66,9	581,6
500,7	85,84	-36,18	5,52	90,2	66,9	581,6
523,5	85,84	-36,18	5,77	94,3	66,9	581,6
546,4	85,84	36,18	6,02	98,4	66,9	581,6
555,2	85,84	-36,18	6,12	100,0	66,9	581,6

CÓPIA NÃO CONTROLADA

Tank Capacity Tables

SW BALLAST TANK No. 18 STBD

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	
21,1	85,61	35,97	0,26	3,8	58,8	560,3
43,7	85,71	36,09	0,51	7,9	65,5	577,8
66,5	85,75	36,12	0,77	12,0	66,9	581,7
89,4	85,78	36,14	1,02	16,1	66,9	581,7
112,2	85,79	36,15	1,27	20,2	66,9	581,7
135,1	85,80	36,16	1,52	24,3	66,9	581,7
157,9	85,81	36,16	1,77	28,4	66,9	581,7
180,8	85,82	36,17	2,02	32,6	66,9	581,7
203,6	105,82	36,17	2,27	36,7	66,9	581,7
226,5	85,82	36,16	2,52	40,8	66,9	581,7
249,3	85,82	36,17	2,77	44,9	66,9	581,7
272,2	85,83	36,17	3,02	49,0	66,9	581,7
295,0	85,83	36,18	3,27	53,1	66,9	581,7
317,9	85,83	36,18	3,52	57,3	66,9	581,7
340,7	85,83	36,18	3,77	61,4	66,9	581,7
363,6	85,83	36,18	4,02	65,5	66,9	581,7
386,4	85,83	36,18	4,27	69,6	66,9	581,7
409,3	85,83	36,18	4,52	73,7	66,9	581,7
432,1	85,84	36,18	4,77	77,8	66,9	581,6
455,0	85,84	36,18	5,02	82,0	66,9	581,7
477,8	85,84	36,18	5,27	86,1	66,9	581,6
500,7	85,84	36,18	5,52	90,2	66,9	581,6
523,5	85,84	36,18	5,77	94,3	66,9	581,6
546,4	85,84	-36,18	6,02	98,4	66,9	581,6
555,2	85,84	36,18	6,12	100,0	66,9	581,6

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 19 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
30,7	96,01	-30,86	0,25	4,2	245,8	437,0
61,5	96,01	-30,86	0,50	8,4	245,8	437,0
92,2	96,01	-30,86	0,75	12,6	245,8	437,0
122,9	96,01	-30,86	1,00	16,9	245,8	437,0
153,6	96,01	-30,86	1,25	21,1	245,8	437,0
184,4	96,01	-30,86	1,50	25,3	183,8	217,3
208,3	96,07	-30,88	1,70	28,6	183,8	217,3
232,1	96,12	-30,90	1,91	31,9	183,8	217,3
256,0	96,16	-30,91	2,13	35,1	245,8	437,0
286,8	96,15	-30,90	2,41	39,3	245,8	437,0
317,5	96,14	-30,90	2,69	43,6	245,8	437,0
348,2	96,12	-30,90	2,96	47,8	245,8	437,0
378,9	96,12	-30,89	3,22	52,0	245,8	437,0
409,7	96,11	-30,89	3,49	56,2	245,8	437,0
440,4	96,10	-30,89	3,75	60,4	245,8	437,0
471,1	96,10	-30,89	4,01	64,6	245,8	437,0
501,9	96,09	-30,88	4,27	68,9	245,8	437,0
532,6	96,09	-30,88	4,53	73,1	245,8	437,0
563,3	96,08	-30,88	4,79	77,3	245,8	437,0
594,0	96,08	-30,88	5,04	81,5	245,8	437,0
624,8	96,07	-30,88	5,30	85,7	245,8	437,0
655,5	96,07	-30,88	5,56	89,9	245,8	437,0
686,2	96,07	-30,88	5,81	94,2	245,8	437,0
716,9	96,07	-30,88	6,06	98,4	245,8	437,0
728,7	96,07	-30,88	6,16	100,0	245,8	437,0

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 19 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
30,7	96,01	30,86	0,25	4,2	245,8	437,0
61,5	96,01	30,86	0,50	8,4	245,8	437,0
92,2	96,01	30,86	0,75	12,6	245,8	437,0
122,9	96,01	30,86	1,00	16,9	245,8	437,0
153,6	96,01	30,86	1,25	21,1	245,8	437,0
184,4	96,01	30,86	1,50	25,3	183,8	217,3
208,3	96,07	30,88	1,70	28,6	183,8	217,3
232,1	96,12	30,90	1,91	31,9	183,8	217,3
256,0	96,16	30,91	2,13	35,1	245,8	437,0
286,8	96,15	30,90	2,41	39,3	245,8	437,0
317,5	96,14	30,90	2,69	43,6	245,8	437,0
348,2	96,12	30,90	2,96	47,8	245,8	437,0
378,9	96,12	30,89	3,22	52,0	245,8	437,0
409,7	96,11	30,89	3,49	56,2	245,8	437,0
440,4	96,10	30,89	3,75	60,4	245,8	437,0
471,1	96,10	30,89	4,01	64,6	245,8	437,0
501,9	96,09	30,88	4,27	68,9	245,8	437,0
532,6	96,09	30,88	4,53	73,1	245,8	437,0
563,3	96,08	30,88	4,79	77,3	245,8	437,0
594,0	96,08	30,88	5,04	81,5	245,8	437,0
624,8	96,07	30,88	5,30	85,7	245,8	437,0
655,5	96,07	30,88	5,56	89,9	245,8	437,0
686,2	96,07	30,88	5,81	94,2	245,8	437,0
716,9	96,07	30,88	6,06	98,4	245,8	437,0
728,7	96,07	30,88	6,16	100,0	245,8	437,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 20 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
26,0	98,47	-36,09	0,26	3,4	80,0	1030,0
56,0	98,53	-36,23	0,53	7,3	99,3	1132,8
87,6	98,57	-36,30	0,79	11,4	106,4	1173,1
119,6	98,59	-36,34	1,04	15,6	106,6	1179,1
151,6	98,61	-36,40	1,30	19,7	106,6	1179,1
183,5	98,62	-36,39	1,55	23,9	101,4	1079,7
214,4	98,66	-36,40	1,80	27,9	101,4	1079,7
245,3	98,69	-36,41	2,04	31,9	101,4	1079,8
276,1	98,71	-36,43	2,29	35,9	106,6	1179,2
308,1	98,71	-36,43	2,54	40,1	106,6	1179,2
340,1	98,70	-36,43	2,80	44,3	106,6	1179,1
372,1	98,70	-36,44	3,05	48,4	106,6	1179,1
404,1	98,70	-36,44	3,31	52,6	106,6	1179,1
436,1	98,70	-36,44	3,56	56,8	106,6	1179,1
468,0	98,69	-36,44	3,81	60,9	106,6	1179,1
500,0	98,69	-36,44	4,06	65,1	106,6	1179,1
532,0	98,69	-36,44	4,31	69,3	106,6	1179,1
564,0	98,69	-36,44	4,57	73,4	106,6	1179,1
596,0	98,69	-36,44	4,82	77,6	106,6	1179,1
628,0	98,69	-36,45	5,07	81,7	106,6	1179,1
660,0	98,69	-36,45	5,32	85,9	106,6	1179,1
691,9	98,68	-36,45	5,57	90,1	106,6	1179,1
723,9	98,68	-36,45	5,82	94,2	106,6	1179,1
755,9	98,68	-36,45	6,07	98,4	106,6	1179,1
768,2	98,68	-36,45	6,17	100,0	106,6	1179,1

E COPIA FIEL DEL DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 20 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
26,0	98,47	36,09	0,26	3,4	80,0	1030,0
56,0	98,53	36,23	0,53	7,3	99,3	1132,8
87,6	98,57	36,30	0,79	11,4	106,4	1173,1
119,6	98,59	36,34	1,04	15,6	106,6	1179,1
151,6	98,61	36,40	1,30	19,7	106,6	1179,1
183,5	98,62	36,39	1,55	23,9	101,4	1079,7
214,4	98,66	36,40	1,80	27,9	101,4	1079,7
245,3	98,69	36,41	2,04	31,9	101,4	1079,8
276,1	98,71	36,43	2,29	35,9	106,6	1179,2
308,1	98,71	36,43	2,54	40,1	106,6	1179,2
340,1	98,70	36,43	2,80	44,3	106,6	1179,1
372,1	98,70	36,44	3,05	48,4	106,6	1179,1
404,1	98,70	36,44	3,31	52,6	106,6	1179,1
436,1	98,70	36,44	3,56	56,8	106,6	1179,1
468,0	98,69	36,44	3,81	60,9	106,6	1179,1
500,0	98,69	36,44	4,06	65,1	106,6	1179,1
532,0	98,69	36,44	4,31	69,3	106,6	1179,1
564,0	98,69	36,44	4,57	73,4	106,6	1179,1
596,0	98,69	36,44	4,82	77,6	106,6	1179,1
628,0	98,69	36,45	5,07	81,7	106,6	1179,1
660,0	98,69	36,45	5,32	85,9	106,6	1179,1
691,9	98,68	36,45	5,57	90,1	106,6	1179,1
723,9	98,68	36,45	5,82	94,2	106,6	1179,1
755,9	98,68	36,45	6,07	98,4	106,6	1179,1
768,2	98,68	36,45	6,17	100,0	106,6	1179,1

É CÓPIA FIEL DO DOCUMENTO ORIGINAL.

Tank Capacity Tables

SW BALLAST TANK No. 21 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
36,2	102,44	-24,67	0,26	3,8	289,2	2542,3
78,8	102,49	-24,50	0,53	8,2	345,1	2864,7
124,0	102,54	-24,46	0,79	12,9	365,6	3015,9
156,2	103,18	-24,44	0,99	16,2	194,5	729,2
188,0	103,64	-24,47	1,20	19,5	195,1	739,1
219,9	103,97	-24,49	1,43	22,8	195,1	741,9
251,8	104,22	-24,52	1,66	26,1	195,1	742,1
283,8	104,41	-24,53	1,89	29,4	195,1	742,1
315,7	104,57	-24,57	2,13	32,8	195,1	742,0
347,6	104,69	-24,55	2,37	36,1	195,1	742,0
379,5	104,79	-24,68	2,61	39,4	195,1	742,1
411,4	104,88	-24,56	2,86	42,7	195,1	742,1
443,4	104,96	-24,57	3,10	46,0	195,1	742,1
475,3	105,02	-24,57	3,35	49,3	195,1	742,0
507,2	105,08	-24,58	3,59	52,6	195,1	742,0
539,1	105,13	-24,58	3,84	55,9	195,1	742,0
571,0	105,18	-24,59	4,09	59,3	195,1	742,0
603,0	105,21	-24,59	4,33	62,6	195,1	742,0
653,2	104,99	-24,57	4,71	67,8	444,0	4030,0
710,9	104,71	-24,55	5,12	73,8	444,0	4030,0
768,5	104,47	-24,53	5,51	79,8	444,0	4030,0
826,2	104,26	-24,51	5,87	85,7	444,0	4030,0
883,9	104,08	-24,50	6,22	91,7	444,0	4030,0
941,5	103,92	-24,49	6,56	97,7	444,0	4030,0
963,7	103,87	-24,48	6,69	100,0	444,0	4030,0

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 21 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
36,2	102,44	24,67	0,26	3,8	289,2	2542,3
78,8	102,49	24,50	0,53	8,2	345,1	2864,7
124,0	102,54	24,46	0,79	12,9	365,6	3015,9
156,2	103,18	24,44	0,99	16,2	194,5	729,2
188,0	103,64	24,47	1,20	19,5	195,1	739,1
219,9	103,97	24,49	1,43	22,8	195,1	741,9
251,8	104,22	24,52	1,66	26,1	195,1	742,1
283,8	104,41	24,53	1,89	29,4	195,1	742,1
315,7	104,57	24,57	2,13	32,8	195,1	742,0
347,6	104,69	24,55	2,37	36,1	195,1	742,0
379,5	104,79	24,68	2,61	39,4	195,1	742,1
411,4	104,88	24,56	2,86	42,7	195,1	742,1
443,4	104,96	24,57	3,10	46,0	195,1	742,1
475,3	105,02	24,57	3,35	49,3	195,1	742,0
507,2	105,08	24,58	3,59	52,6	195,1	742,0
539,1	105,13	24,58	3,84	55,9	195,1	742,0
571,0	105,18	24,59	4,09	59,3	195,1	742,0
603,0	105,21	24,59	4,33	62,6	195,1	742,0
653,2	104,99	24,57	4,71	67,8	444,0	4030,0
710,9	104,71	24,55	5,12	73,8	444,0	4030,0
768,5	104,47	24,53	5,51	79,8	444,0	4030,0
826,2	104,26	24,51	5,87	85,7	444,0	4030,0
883,9	104,08	24,50	6,22	91,7	444,0	4030,0
941,5	103,92	24,49	6,56	97,7	444,0	4030,0
963,7	103,87	24,48	6,69	100,0	444,0	4030,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 22 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
39,6	106,41	-30,81	0,25	3,7	359,5	955,6
81,4	106,51	-30,90	0,51	7,6	400,8	998,7
124,5	106,57	-30,97	0,77	11,7	427,9	1023,9
168,2	106,61	-31,01	1,02	15,8	442,6	1038,7
212,2	106,64	-31,05	1,28	19,9	447,2	1045,8
256,3	106,67	-31,07	1,53	24,0	447,7	1047,5
300,4	106,68	-31,06	1,78	28,1	447,7	1047,5
344,5	106,70	-31,10	2,04	32,3	447,7	1047,5
388,6	106,70	-31,11	2,29	36,4	447,7	1047,5
432,7	106,71	-31,11	2,54	40,5	447,7	1047,5
476,9	106,72	-31,12	2,79	44,7	447,7	1047,5
521,0	106,72	-31,12	3,04	48,8	447,7	1047,5
565,1	106,73	-31,13	3,29	52,9	447,7	1047,5
609,2	106,73	-31,13	3,54	57,1	447,7	1047,5
653,3	106,73	-31,14	3,79	61,2	447,7	1047,5
697,4	106,74	-31,14	4,04	65,3	447,7	1047,5
741,6	106,74	-31,14	4,29	69,5	447,7	1047,5
785,7	106,74	-31,14	4,54	73,6	447,7	1047,5
829,8	106,74	-31,14	4,79	77,7	447,7	1047,5
873,9	106,74	-31,15	5,04	81,9	447,7	1047,5
918,0	106,75	-31,15	5,29	86,0	447,7	1047,5
962,1	106,75	-31,15	5,54	90,1	447,7	1047,5
1006,3	106,75	-31,15	5,79	94,3	447,7	1047,5
1050,4	106,75	-31,15	6,04	98,4	447,7	1047,5
1067,3	106,75	-31,15	6,14	100,0	447,7	1047,5

ESTA É CÓPIA FIEL DO DOCUMENTO ORIGINAL

SW BALLAST TANK No. 22 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
39,6	106,41	30,81	0,25	3,7	359,5	955,6
81,4	106,51	30,90	0,51	7,6	400,8	998,7
124,5	106,57	30,97	0,77	11,7	427,9	1023,9
168,2	106,61	31,01	1,02	15,8	442,6	1038,7
212,2	106,64	31,05	1,28	19,9	447,2	1045,8
256,3	106,67	31,07	1,53	24,0	447,7	1047,5
300,4	106,68	31,06	1,78	28,1	447,7	1047,5
344,5	106,70	31,10	2,04	32,3	447,7	1047,5
388,6	106,70	31,11	2,29	36,4	447,7	1047,5
432,7	106,71	31,11	2,54	40,5	447,7	1047,5
476,9	106,72	31,12	2,79	44,7	447,7	1047,5
521,0	106,72	31,12	3,04	48,8	447,7	147,5
565,1	106,73	31,13	3,29	52,9	447,7	1047,5
609,2	106,73	31,13	3,54	57,1	447,7	1047,5
653,3	106,73	31,14	3,79	61,2	447,7	1047,5
697,4	106,74	31,14	4,04	65,3	447,7	1047,5
741,6	106,74	31,14	4,29	69,5	447,7	1047,5
785,7	106,74	31,14	4,54	73,6	447,7	1047,5
829,8	106,74	31,14	4,79	77,7	447,7	1047,5
873,9	106,74	31,15	5,04	81,9	447,7	1047,5
918,0	106,75	31,15	5,29	86,0	447,7	1047,5
962,1	106,75	31,15	5,54	90,1	447,7	1047,5
1006,3	106,75	31,15	5,79	94,3	447,7	1047,5
1050,4	106,75	31,15	6,04	98,4	447,7	1047,5
1067,3	106,75	31,15	6,14	100,0	447,7	1047,5

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 23 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	0,0
43,7	28,02	-27,55	12,44	6,6	1895,9	1971,0
87,4	28,02	-27,55	12,69	13,1	1895,9	1971,0
131,0	28,02	-27,55	12,94	19,7	1895,9	1971,0
174,7	28,02	-27,55	13,19	26,2	1895,9	1971,0
218,4	28,02	-27,55	13,44	32,8	1895,9	1971,0
262,1	28,02	-27,55	13,69	39,4	1895,9	1971,0
305,7	28,02	-27,55	13,94	45,9	1895,9	1971,0
349,4	28,02	-27,55	14,19	52,5	1895,9	1971,0
393,1	28,02	-27,55	14,44	59,1	1895,9	1971,0
436,8	28,02	-27,55	14,69	65,6	1895,9	1971,0
480,4	28,02	-27,55	14,94	72,2	1895,9	1971,0
524,1	28,02	-27,55	15,19	78,7	1895,9	1971,0
567,8	28,02	-27,55	15,44	85,3	1895,9	1971,0
611,5	28,02	-27,55	15,69	91,9	1895,9	1971,0
655,1	28,02	-27,55	15,94	98,4	1895,9	1971,0
665,6	28,02	-27,55	16,00	100,0	1895,9	1971,0

PETROBRAS
DIRETORIA
ASSESSOR DE PROJETOS E CONTROLE
ENGENHEIRO RESPONSÁVEL
ESTA CÓPIA É O DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 23 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	
43,7	28,02	27,55	12,44	6,6	1895,9	1971,0
87,4	28,02	27,55	12,69	13,1	1895,9	1971,0
131,0	28,02	27,55	12,94	19,7	1895,9	1971,0
174,7	28,02	27,55	13,19	26,2	1895,9	1971,0
218,4	28,02	27,55	13,44	32,8	1895,9	1971,0
262,1	28,02	27,55	13,69	39,4	1895,9	1971,0
305,7	28,02	27,55	13,94	45,9	1895,9	1971,0
349,4	28,02	27,55	14,19	52,5	1895,9	1971,0
393,1	28,02	27,55	14,44	59,1	1895,9	1971,0
436,8	28,02	27,55	14,69	65,6	1895,9	1971,0
480,4	28,02	27,55	14,94	72,2	1895,9	1971,0
524,1	28,02	27,55	15,19	78,7	1895,9	1971,0
567,8	28,02	27,55	15,44	85,3	1895,9	1971,0
611,5	28,02	27,55	15,69	91,9	1895,9	1971,0
655,1	28,02	27,55	15,94	98,4	1895,9	1971,0
665,6	28,02	27,55	16,00	100,0	1895,9	1971,0

ESTA CÓPIA FEL DO DOCUMENTO ORIGINAL.
JOSÉ CARLOS PINTO DE OLIVEIRA
DIRETOR

DIVISÃO JUDICIÁRIA
TRIBUNAL MARÍTIMO

Tank Capacity Tables

SW BALLAST TANK No. 24 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			9,14	0,0	0,0	0,0
63,1	28,00	-26,33	9,39	6,4	1661,1	1847,5
126,2	28,00	-26,33	9,64	12,9	1661,1	1847,5
189,3	28,00	-26,33	9,89	19,3	1661,1	1847,5
252,4	28,00	-26,33	10,14	25,7	1661,1	1847,5
315,6	28,00	-26,33	10,39	32,2	1661,1	1847,5
378,7	28,00	-26,33	10,64	38,6	1661,1	1847,5
414,2	28,03	-26,38	10,79	42,2	525,8	558,2
446,8	28,05	-26,44	10,95	45,6	525,8	558,2
479,4	28,07	-26,48	11,11	48,9	525,8	558,2
512,0	28,09	-26,52	11,29	52,2	525,8	558,2
544,6	28,11	-26,56	11,48	55,5	525,8	558,2
577,2	28,12	-26,59	11,67	58,8	525,8	558,2
609,8	28,13	-26,62	11,87	62,2	525,8	558,2
642,4	28,15	-26,64	12,07	65,5	525,8	558,2
675,0	28,16	-26,66	12,28	68,8	525,8	558,2
707,5	28,17	-26,68	12,49	72,1	525,8	558,2
740,1	28,17	-26,70	12,71	75,5	525,8	558,2
772,7	28,18	-26,72	12,93	78,8	525,8	558,2
805,3	28,19	-26,74	13,15	82,1	525,8	558,2
837,9	28,20	-26,75	13,37	85,4	525,8	558,2
870,5	28,20	-26,76	13,60	88,8	525,8	558,2
903,1	28,21	-26,78	13,83	92,1	525,8	558,2
935,7	28,21	-26,79	14,05	95,4	525,8	558,2
968,3	28,22	-26,80	14,28	98,7	525,8	558,2
980,8	28,22	-26,80	14,37	100,0	525,8	558,2

COPIA NÃO CONTROLADA

Tank Capacity Tables

SW BALLAST TANK No. 24 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			9,14	0,0	0,0	
63,1	28,00	26,33	9,39	6,4	1661,1	1847,5
126,2	28,00	26,33	9,64	12,9	1661,1	1847,5
189,3	28,00	26,33	9,89	19,3	1661,1	1847,5
252,4	28,00	26,33	10,14	25,7	1661,1	1847,5
315,6	28,00	26,33	10,39	32,2	1661,1	1847,5
378,7	28,00	26,33	10,64	38,6	1661,1	1847,5
414,2	28,03	26,38	10,79	42,2	525,8	558,2
446,8	28,05	26,44	10,95	45,6	525,8	558,2
479,4	28,07	26,48	11,11	48,9	525,8	558,2
512,0	28,09	26,52	11,29	52,2	525,8	558,2
544,6	28,11	26,56	11,48	55,5	525,8	558,2
577,2	28,12	26,59	11,67	58,8	525,8	558,2
609,8	28,13	26,62	11,87	62,2	525,8	558,2
642,4	28,15	26,64	12,07	65,5	525,8	558,2
675,0	28,16	26,66	12,28	68,8	525,8	558,2
707,5	28,17	26,68	12,49	72,1	525,8	558,2
740,1	28,17	26,70	12,71	75,5	525,8	558,2
772,7	28,18	26,72	12,93	78,8	525,8	558,2
805,3	28,19	26,74	13,15	82,1	525,8	558,2
837,9	28,20	26,75	13,37	85,4	525,8	558,2
870,5	28,20	26,76	13,60	88,8	525,8	558,2
903,1	28,21	26,78	13,83	92,1	525,8	558,2
935,7	28,21	26,79	14,05	95,4	525,8	558,2
968,3	28,22	26,80	14,28	98,7	525,8	558,2
980,8	28,22	26,80	14,37	100,0	525,8	558,2

ESTE DOCUMENTO É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 25 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	0,0
43,7	84,76	-27,55	12,44	6,6	1895,8	1971,0
87,4	84,76	-27,55	12,69	13,1	1895,8	1971,0
131,0	84,76	-27,55	12,94	19,7	1895,8	1971,0
174,7	84,76	-27,55	13,19	26,2	1895,8	1971,0
218,4	84,76	-27,55	13,44	32,8	1895,8	1971,0
262,1	84,76	-27,55	13,69	39,4	1895,8	1971,0
305,7	84,76	-27,55	13,94	45,9	1895,8	1971,0
349,4	84,76	-27,55	14,19	52,5	1895,8	1971,0
393,1	84,76	-27,55	14,44	59,1	1895,8	1971,0
436,8	84,76	-27,55	14,69	65,6	1895,8	1971,0
480,4	84,76	-27,55	14,94	72,2	1895,8	1971,0
524,1	84,76	-27,55	15,19	78,7	1895,8	1971,0
567,8	84,76	-27,55	15,44	85,3	1895,8	1971,0
611,5	84,76	-27,55	15,69	91,9	1895,8	1971,0
655,1	84,76	-27,55	15,94	98,4	1895,8	1971,0
665,6	84,76	-27,55	16,00	100,0	1895,8	1971,0

CÓPIA FIEL DO DOCUMENTO ORIGINAL

SW BALLAST TANK No. 25 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	
43,7	84,76	27,55	12,44	6,6	1895,8	1971,0
87,4	84,76	27,55	12,69	13,1	1895,8	1971,0
131,0	84,76	27,55	12,94	19,7	1895,8	1971,0
174,7	84,76	27,55	13,19	26,2	1895,8	1971,0
218,4	84,76	27,55	13,44	32,8	1895,8	1971,0
262,1	84,76	27,55	13,69	39,4	1895,8	1971,0
305,7	84,76	27,55	13,94	45,9	1895,8	1971,0
349,4	84,76	27,55	14,19	52,5	1895,8	1971,0
393,1	84,76	27,55	14,44	59,1	1895,8	1971,0
436,8	84,76	27,55	14,69	65,6	1895,8	1971,0
480,4	84,76	27,55	14,94	72,2	1895,8	1971,0
524,1	84,76	27,55	15,19	78,7	1895,8	1971,0
567,8	84,76	27,55	15,44	85,3	1895,8	1971,0
611,5	84,76	27,55	15,69	91,9	1895,8	1971,0
655,1	84,76	27,55	15,94	98,4	1895,8	1971,0
665,6	84,76	27,55	16,00	100,0	1895,8	1971,0

E COPIA FIEL DO ORIGINAL

Tank Capacity Tables

SW BALLAST TANK No. 26 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			9,14	0,0	0,0	0,0
63,1	84,77	-26,33	9,39	6,4	1661,1	1847,4
126,2	84,77	-26,33	9,64	12,9	1661,1	1847,4
189,3	84,77	-26,33	9,89	19,3	1661,1	1847,4
252,4	84,77	-26,33	10,14	25,7	1661,1	1847,4
315,6	84,77	-26,33	10,39	32,2	1661,1	1847,4
378,7	84,77	-26,33	10,64	38,6	1661,1	1847,4
414,2	84,75	-26,38	10,79	42,2	525,8	558,3
446,8	84,73	-26,44	10,95	45,6	525,8	558,3
479,4	84,70	-26,48	11,11	48,9	525,8	558,3
512,0	84,69	-26,52	11,29	52,2	525,8	558,3
544,6	84,67	-26,56	11,48	55,5	525,8	558,3
577,2	84,66	-26,59	11,67	58,8	525,8	558,3
609,8	84,64	-26,62	11,87	62,2	525,8	558,3
642,4	84,63	-26,64	12,07	65,5	525,8	558,3
675,0	84,62	-26,66	12,28	68,8	525,8	558,3
707,5	84,61	-26,68	12,49	72,1	525,8	558,3
740,1	84,60	-26,70	12,71	75,5	525,8	558,3
772,7	84,60	-26,72	12,93	78,8	525,8	558,3
805,3	84,59	-26,74	13,15	82,1	525,8	558,3
837,9	84,58	-26,75	13,37	85,4	525,8	558,3
870,5	84,58	-26,76	13,60	88,8	525,8	558,3
903,1	84,57	-26,78	13,83	92,1	525,8	558,3
935,7	84,56	-26,79	14,05	95,4	525,8	558,3
968,3	84,56	-26,80	14,28	98,7	525,8	558,3
980,8	84,56	-26,80	14,37	100,0	525,8	558,3

ESTE DOCUMENTO ORIGINAL

SW BALLAST TANK No. 26 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			9,14	0,0	0,0	
63,1	84,77	26,33	9,39	6,4	1661,1	1847,4
126,2	84,77	26,33	9,64	12,9	1661,1	1847,4
189,3	84,77	26,33	9,89	19,3	1661,1	1847,4
252,4	84,77	26,33	10,14	25,7	1661,1	1847,4
315,6	84,77	26,33	10,39	32,2	1661,1	1847,4
378,7	84,77	26,33	10,64	38,6	1661,1	1847,4
414,2	84,75	26,38	10,79	42,2	525,8	558,3
446,8	84,73	26,44	10,95	45,6	525,8	558,3
479,4	84,70	26,48	11,11	48,9	525,8	558,3
512,0	84,69	26,52	11,29	52,2	525,8	558,3
544,6	84,67	26,56	11,48	55,5	525,8	558,3
577,2	84,66	26,59	11,67	58,8	525,8	558,3
609,8	84,64	26,62	11,87	62,2	525,8	558,3
642,4	84,63	26,64	12,07	65,5	525,8	558,3
675,0	84,62	26,66	12,28	68,8	525,8	558,3
707,5	84,61	26,68	12,49	72,1	525,8	558,3
740,1	84,60	26,70	12,71	75,5	525,8	558,3
772,7	84,60	26,72	12,93	78,8	525,8	558,3
805,3	84,59	26,74	13,15	82,1	525,8	558,3
837,9	84,58	26,75	13,37	85,4	525,8	558,3
870,5	84,58	26,76	13,60	88,8	525,8	558,3
903,1	84,57	26,78	13,83	92,1	525,8	558,3
935,7	84,56	26,79	14,05	95,4	525,8	558,3
968,3	84,56	26,80	14,28	98,7	525,8	558,3
980,8	84,56	26,80	14,37	100,0	525,8	558,3

ESTA CÓPIA É FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

CHAIN LOCKER No. 1 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
2,3	84,58	-30,50	1,00	0,6	1,0	45,1
14,4	84,58	-30,43	1,51	4,0	102,7	526,5
37,9	84,58	-30,42	1,82	10,5	102,7	526,5
61,5	84,58	-30,41	2,08	16,9	102,7	526,5
85,1	84,58	-30,41	2,34	23,4	102,7	526,5
108,7	84,58	-30,41	2,59	29,9	102,7	526,5
132,3	84,58	-30,41	3,09	36,4	102,7	526,5
155,9	84,58	-30,41	3,34	42,9	102,7	526,5
179,5	84,58	-30,41	3,59	49,4	102,7	526,5
203,1	84,58	-30,41	3,84	55,9	102,7	526,5
226,7	84,58	-30,41	4,10	62,4	102,7	526,5
250,3	84,58	-30,41	4,35	68,9	102,7	526,5
273,8	84,58	-30,41	4,60	75,4	102,7	526,5
321,0	84,58	-30,41	4,90	88,4	102,7	526,5
344,6	84,58	-30,41	5,10	94,9	102,7	526,5
363,1	84,58	-30,41	5,29	100,0	102,7	526,5

* COPIA FIEL DO DOCUMENTO ORIGINAL *

Tank Capacity Tables

CHAIN LOCKER No. 2 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
2,3	28,19	-30,50	1,00	0,6	1,0	45,1
14,4	28,19	-30,43	1,51	4,0	102,7	526,5
37,9	28,19	-30,42	1,82	10,5	102,7	526,5
61,5	28,19	-30,41	2,08	16,9	102,7	526,5
85,1	28,19	-30,41	2,34	23,4	102,7	526,5
108,7	28,19	-30,41	2,59	29,9	102,7	526,5
132,3	28,19	-30,41	3,09	36,4	102,7	526,5
155,9	28,19	-30,41	3,34	42,9	102,7	526,5
179,5	28,19	-30,41	3,59	49,4	102,7	526,5
203,1	28,19	-30,41	3,84	55,9	102,7	526,5
226,7	28,19	-30,41	4,10	62,4	102,7	526,5
250,3	28,19	-30,41	4,35	68,9	102,7	526,5
273,8	28,19	-30,41	4,60	75,4	102,7	526,5
321,0	28,19	-30,41	4,90	88,4	102,7	526,5
344,6	28,19	-30,41	5,10	94,9	102,7	526,5
363,1	28,19	-30,41	5,29	100,0	102,7	526,5

Tank Capacity Tables

CHAIN LOCKER No. 3 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
2,3	28,19	30,50	1,00	0,6	1,0	45,1
14,4	28,19	30,43	1,51	4,0	102,7	526,5
37,9	28,19	30,42	1,82	10,5	102,7	526,5
61,5	28,19	30,41	2,08	16,9	102,7	526,5
85,1	28,19	30,41	2,34	23,4	102,7	526,5
108,7	28,19	30,41	2,59	29,9	102,7	526,5
132,3	28,19	30,41	3,09	36,4	102,7	526,5
155,9	28,19	30,41	3,34	42,9	102,7	526,5
179,5	28,19	30,41	3,59	49,4	102,7	526,5
203,1	28,19	30,41	3,84	55,9	102,7	526,5
226,7	28,19	30,41	4,10	62,4	102,7	526,5
250,3	28,19	30,41	4,35	68,9	102,7	526,5
273,8	28,19	30,41	4,60	75,4	102,7	526,5
321,0	28,19	30,41	4,90	88,4	102,7	526,5
344,6	28,19	30,41	5,10	94,9	102,7	526,5
363,1	28,19	30,41	5,29	100,0	102,7	526,5

ESTE DOCUMENTO É CÓPIA FIEL DO ORIGINAL

CHEQUE MARITIMO TRIBUNAL

Tank Capacity Tables

CHAIN LOCKER No. 4 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
2,3	84,58	30,50	1,00	0,6	1,0	45,1
14,4	84,58	30,43	1,51	4,0	102,7	526,5
37,9	84,58	30,42	1,82	10,5	102,7	526,5
61,5	84,58	30,41	2,08	16,9	102,7	526,5
85,1	84,58	30,41	2,34	23,4	102,7	526,5
108,7	84,58	30,41	2,59	29,9	102,7	526,5
132,3	84,58	30,41	3,09	36,4	102,7	526,5
155,9	84,58	30,41	3,34	42,9	102,7	526,5
179,5	84,58	30,41	3,59	49,4	102,7	526,5
203,1	84,58	30,41	3,84	55,9	102,7	526,5
226,7	84,58	30,41	4,10	62,4	102,7	526,5
250,3	84,58	30,41	4,35	68,9	102,7	526,5
273,8	84,58	30,41	4,60	75,4	102,7	526,5
321,0	84,58	30,41	4,90	88,4	102,7	526,5
344,6	84,58	30,41	5,10	94,9	102,7	526,5
363,1	84,58	30,41	5,29	100,0	102,7	526,5

ESTA CÓPIA É PROIBIDA DE DOCUMENTO ORIGINAL
DIVISÃO JUDICIÁRIA TRIBUNAL OFICIAL 8969

Tank Capacity Tables

CHAIN LOCKER No. 5 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	
2,9	86,47	-31,12	12,44	5,5	3,3	2,5
5,7	86,47	-31,12	12,69	10,9	3,3	2,5
8,6	86,47	-31,12	12,94	16,4	3,3	2,5
11,4	86,47	-31,12	13,19	21,9	3,3	2,5
14,3	86,47	-31,12	13,44	27,3	3,3	2,5
17,1	86,47	-31,12	13,69	32,8	3,3	2,5
20,0	86,47	-31,12	13,94	38,3	3,3	2,5
22,9	86,47	-31,12	14,19	43,7	3,3	2,5
25,7	86,47	-31,12	14,44	49,2	3,3	2,5
28,6	86,47	-31,12	14,69	54,7	3,3	2,5
31,4	86,47	-31,12	14,94	60,1	3,3	2,5
34,3	86,47	-31,12	15,19	65,6	3,3	2,5
37,1	86,47	-31,12	15,44	71,1	3,3	2,5
40,0	86,47	-31,12	15,69	76,6	3,3	2,5
42,8	86,47	-31,12	15,94	82,0	3,3	2,5
45,7	86,47	-31,12	16,19	87,5	3,3	2,5
48,6	86,47	-31,12	16,44	93,0	3,3	2,5
51,4	86,47	-31,12	16,69	98,4	3,3	2,5
52,2	86,47	-31,12	16,76	100,0	3,3	2,5

Tank Capacity Tables

CHAIN LOCKER No. 6 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	
2,9	26,31	-31,12	12,44	5,5	3,3	2,5
5,7	26,31	-31,12	12,69	10,9	3,3	2,5
8,6	26,31	-31,12	12,94	16,4	3,3	2,5
11,4	26,31	-31,12	13,19	21,9	3,3	2,5
14,3	26,31	-31,12	13,44	27,3	3,3	2,5
17,1	26,31	-31,12	13,69	32,8	3,3	2,5
20,0	26,31	-31,12	13,94	38,3	3,3	2,5
22,9	26,31	-31,12	14,19	43,7	3,3	2,5
25,7	26,31	-31,12	14,44	49,2	3,3	2,5
28,6	26,31	-31,12	14,69	54,7	3,3	2,5
31,4	26,31	-31,12	14,94	60,1	3,3	2,5
34,3	26,31	-31,12	15,19	65,6	3,3	2,5
37,1	26,31	-31,12	15,44	71,1	3,3	2,5
40,0	26,31	-31,12	15,69	76,6	3,3	2,5
42,8	26,31	-31,12	15,94	82,0	3,3	2,5
45,7	26,31	-31,12	16,19	87,5	3,3	2,5
48,6	26,31	-31,12	16,44	93,0	3,3	2,5
51,4	26,31	-31,12	16,69	98,4	3,3	2,5
52,2	26,31	-31,12	16,76	100,0	3,3	2,5

Tank Capacity Tables

CHAIN LOCKER No. 7 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	
2,9	26,31	31,12	12,44	5,5	3,3	2,5
5,7	26,31	31,12	12,69	10,9	3,3	2,5
8,6	26,31	31,12	12,94	16,4	3,3	2,5
11,4	26,31	31,12	13,19	21,9	3,3	2,5
14,3	26,31	31,12	13,44	27,3	3,3	2,5
17,1	26,31	31,12	13,69	32,8	3,3	2,5
20,0	26,31	31,12	13,94	38,3	3,3	2,5
22,9	26,31	31,12	14,19	43,7	3,3	2,5
25,7	26,31	31,12	14,44	49,2	3,3	2,5
28,6	26,31	31,12	14,69	54,7	3,3	2,5
31,4	26,31	31,12	14,94	60,1	3,3	2,5
34,3	26,31	31,12	15,19	65,6	3,3	2,5
37,1	26,31	31,12	15,44	71,1	3,3	2,5
40,0	26,31	31,12	15,69	76,6	3,3	2,5
42,8	26,31	31,12	15,94	82,0	3,3	2,5
45,7	26,31	31,12	16,19	87,5	3,3	2,5
48,6	26,31	31,12	16,44	93,0	3,3	2,5
51,4	26,31	31,12	16,69	98,4	3,3	2,5
52,2	26,31	31,12	16,76	100,0	3,3	2,5

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

CHAIN LOCKER No. 8 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			12,19	0,0	0,0	
2,9	86,47	31,12	12,44	5,5	3,3	2,5
5,7	86,47	31,12	12,69	10,9	3,3	2,5
8,6	86,47	31,12	12,94	16,4	3,3	2,5
11,4	86,47	31,12	13,19	21,9	3,3	2,5
14,3	86,47	31,12	13,44	27,3	3,3	2,5
17,1	86,47	31,12	13,69	32,8	3,3	2,5
20,0	86,47	31,12	13,94	38,3	3,3	2,5
22,9	86,47	31,12	14,19	43,7	3,3	2,5
25,7	86,47	31,12	14,44	49,2	3,3	2,5
28,6	86,47	31,12	14,69	54,7	3,3	2,5
31,4	86,47	31,12	14,94	60,1	3,3	2,5
34,3	86,47	31,12	15,19	65,6	3,3	2,5
37,1	86,47	31,12	15,44	71,1	3,3	2,5
40,0	86,47	31,12	15,69	76,6	3,3	2,5
42,8	86,47	31,12	15,94	82,0	3,3	2,5
45,7	86,47	31,12	16,19	87,5	3,3	2,5
48,6	86,47	31,12	16,44	93,0	3,3	2,5
51,4	86,47	31,12	16,69	98,4	3,3	2,5
52,2	86,47	31,12	16,76	100,0	3,3	2,5

EXAMINADO NO DOCUMENTO ORIGINAL

Tank Capacity Tables

FUEL OIL TANK N 10 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
30,9	50,92	-24,31	0,26	5,1	224,8	611,1
64,6	50,92	-24,17	0,52	10,6	258,8	642,2
99,3	50,93	-24,09	0,77	16,2	270,8	652,5
134,2	50,93	-24,05	1,03	22,0	271,2	652,8
163,2	50,97	-23,93	1,24	26,7	148,6	533,5
191,8	51,00	-23,84	1,47	31,4	148,6	533,5
220,3	51,02	-23,77	1,70	36,0	148,6	533,5
248,9	51,04	-23,72	1,93	40,7	148,6	533,5
283,8	51,04	-23,75	2,22	46,4	286,8	693,9
319,6	51,05	-23,77	2,50	52,3	286,8	693,9
355,5	51,05	-23,80	2,78	58,2	286,8	693,9
391,3	51,05	-23,82	3,05	64,0	286,8	693,9
427,2	51,05	-23,83	3,32	69,9	286,8	693,9
463,0	51,05	-23,85	3,59	75,7	286,8	693,9
498,9	51,05	-23,86	3,85	81,6	286,8	693,9
534,6	51,05	-23,87	4,11	87,5	280,8	689,0
569,7	51,05	-23,88	4,37	93,2	250,8	663,5
602,7	51,05	-23,90	4,61	98,6	187,0	601,7
611,3	51,05	-23,91	4,67	100,0	0,0	0,0

ESTA É CÓPIA DO DOCUMENTO ORIGINAL

Tank Capacity Tables

FUEL OIL TANK N10 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
30,9	50,92	24,31	0,26	5,1	224,8	611,1
64,6	50,92	24,17	0,52	10,6	258,8	642,2
99,3	50,93	24,09	0,77	16,2	270,8	652,5
134,2	50,93	24,05	1,03	22,0	271,2	652,8
163,2	50,97	23,93	1,24	26,7	148,6	533,5
191,8	51,00	23,84	1,47	31,4	148,6	533,5
220,3	51,02	23,77	1,70	36,0	148,6	533,5
248,9	51,04	23,72	1,93	40,7	148,6	533,5
283,8	51,04	23,75	2,22	46,4	286,8	693,9
319,6	51,05	23,77	2,50	52,3	286,8	693,9
355,5	51,05	23,80	2,78	58,2	286,8	693,9
391,3	51,05	23,82	3,05	64,0	286,8	693,9
427,2	51,05	23,83	3,32	69,9	286,8	693,9
463,0	51,05	23,85	3,59	75,7	286,8	693,9
498,9	51,05	23,86	3,85	81,6	286,8	693,9
534,6	51,05	23,87	4,11	87,5	280,8	689,0
569,7	51,05	23,88	4,37	93,2	250,8	663,5
602,7	51,05	23,90	4,61	98,6	187,0	601,7
611,3	51,05	23,91	4,67	100,0	0,0	0,0

ESTA CÓPIA FAZ PARTE DO DOCUMENTO ORIGINAL

Tank Capacity Tables

FUEL OIL TANK N 12 PORT

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	0,0
31,7	-61,73	-24,38	0,26	5,2	238,2	652,2
66,1	-61,73	-24,25	0,51	10,8	273,8	683,3
101,6	-61,73	-24,17	0,77	16,5	286,4	693,5
137,2	-61,73	-24,13	1,03	22,3	286,8	693,9
166,7	-61,73	-24,00	1,24	27,1	157,2	567,9
195,8	-61,73	-23,91	1,47	31,9	157,2	567,9
224,9	-61,73	-23,84	1,70	36,6	157,2	567,9
254,0	-61,73	-23,78	1,93	41,3	157,2	567,9
288,8	-61,73	-23,80	2,21	47,0	286,8	693,9
324,5	-61,73	-23,82	2,49	52,8	286,8	693,9
360,2	-61,73	-23,84	2,76	58,6	286,8	693,9
395,8	-61,73	-23,86	3,03	64,4	286,8	693,9
431,5	-61,73	-23,87	3,30	70,2	286,8	693,9
467,2	-61,73	-23,88	3,56	76,0	286,8	693,9
502,8	-61,73	-23,89	3,82	81,8	286,8	693,9
538,4	-61,73	-23,90	4,08	87,6	280,8	689,0
573,3	-61,73	-23,91	4,34	93,3	250,8	663,5
606,1	-61,73	-23,93	4,58	98,6	187,0	601,7
614,7	-61,73	-23,94	4,64	100,0	0,0	0,0

ESTA FEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

FUEL OIL TANK N 12 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
31,7	-61,73	24,38	0,26	5,2	238,2	652,2
66,1	-61,73	24,25	0,51	10,8	273,8	683,3
101,6	-61,73	24,17	0,77	16,5	286,4	693,5
137,2	-61,73	24,13	1,03	22,3	286,8	693,9
166,7	-61,73	24,00	1,24	27,1	157,2	567,9
195,8	-61,73	23,91	1,47	31,9	157,2	567,9
224,9	-61,73	23,84	1,70	36,6	157,2	567,9
254,0	-61,73	23,78	1,93	41,3	157,2	567,9
288,8	-61,73	23,80	2,21	47,0	286,8	693,9
324,5	-61,73	23,82	2,49	52,8	286,8	693,9
360,2	-61,73	23,84	2,76	58,6	286,8	693,9
395,8	-61,73	23,86	3,03	64,4	286,8	693,9
431,5	-61,73	23,87	3,30	70,2	286,8	693,9
467,2	-61,73	23,88	3,56	76,0	286,8	693,9
502,8	-61,73	23,89	3,82	81,8	286,8	693,9
538,4	-61,73	23,90	4,08	87,6	280,8	689,0
573,3	-61,73	23,91	4,34	93,3	250,8	663,5
606,1	-61,73	23,93	4,58	98,6	187,0	601,7
614,7	-61,73	23,94	4,64	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

FUEL OIL OVERFLOW TANK PORT

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			35,05	0,0	0,0	0,0
1,1	78,94	-17,79	35,10	6,6	22,1	6,7
2,2	78,94	-17,79	35,15	13,1	22,1	6,7
3,4	78,94	-17,79	35,20	19,7	22,1	6,7
4,8	78,94	-17,79	35,25	28,4	22,1	6,7
5,6	78,94	-17,79	35,30	32,8	22,1	6,7
6,7	78,94	-17,79	35,35	39,4	22,1	6,7
7,8	78,94	-17,79	35,40	45,9	22,1	6,7
9,0	78,94	-17,79	35,45	52,5	22,1	6,7
10,1	78,94	-17,79	35,50	59,1	22,1	6,7
11,2	78,94	-17,79	35,55	65,6	22,1	6,7
12,3	78,94	-17,79	35,60	72,2	22,1	6,7
13,5	78,94	-17,79	35,65	78,7	22,1	6,7
14,6	78,94	-17,79	35,70	85,3	22,1	6,7
15,7	78,94	-17,79	35,75	91,9	22,1	6,7
16,8	78,94	-17,79	35,80	98,4	22,1	6,7
17,1	78,94	-17,79	35,81	100,0	0,0	0,0

"COPIA FIEL DO DOCUMENTO ORIGINAL"

Tank Capacity Tables

FUEL OIL OVERFLOW TANK STBD

Volume	LCG	TCG	VCG	%	Itrans	Ilong
0,0			35,05	0,0	0,0	
1,0	78,87	22,86	35,10	6,6	18,2	4,6
2,1	78,87	22,86	35,15	13,1	18,2	4,6
3,1	78,87	22,86	35,20	19,7	18,2	4,6
4,1	78,87	22,86	35,25	26,2	18,2	4,6
5,2	78,87	22,86	35,30	32,8	18,2	4,6
6,2	78,87	22,86	35,35	39,4	18,2	4,6
7,2	78,87	22,86	35,40	45,9	18,2	4,6
8,3	78,87	22,86	35,45	52,5	18,2	4,6
9,3	78,87	22,86	35,50	59,1	18,2	4,6
10,3	78,87	22,86	35,55	65,6	18,2	4,6
11,4	78,87	22,86	35,60	72,2	18,2	4,6
12,4	78,87	22,86	35,65	78,7	18,2	4,6
13,5	78,87	22,86	35,70	85,3	18,2	4,6
14,5	78,87	22,86	35,75	91,9	18,2	4,6
15,5	78,87	22,86	35,80	98,4	18,2	4,6
15,8	78,87	22,86	35,81	100,0	0,0	0,0

EXEMPLAR NO CONTROLADO
CÓPIA ORIGINAL

Tank Capacity Tables

DIESEL OIL SLUDGE TANK N1 PORT

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0		0,00	35,05	0,0	0,0	0,0
0,3	67,61	-15,62	35,10	6,6	1,4	0,3
0,5	67,61	-15,62	35,15	13,1	1,4	0,3
0,8	67,61	-15,62	35,20	19,7	1,4	0,3
1,1	67,61	-15,62	35,25	26,2	1,4	0,3
1,4	67,61	-15,62	35,30	32,8	1,4	0,3
1,6	67,61	-15,62	35,35	39,4	1,4	0,3
1,9	67,61	-15,62	35,40	45,9	1,4	0,3
2,2	67,61	-15,62	35,45	52,5	1,4	0,3
2,4	67,61	-15,62	35,50	59,0	1,4	0,3
2,7	67,61	-15,62	35,55	65,6	1,4	0,3
3,0	67,61	-15,62	35,60	72,2	1,4	0,3
3,2	67,61	-15,62	35,65	78,7	1,4	0,3
3,5	67,61	-15,62	35,70	85,3	1,4	0,3
3,8	67,61	-15,62	35,75	91,8	1,4	0,3
4,1	67,61	-15,62	35,80	98,4	1,4	0,3
4,1	67,61	-15,62	35,81	100,0	0,0	0,0

DOCUMENTO ORIGINAL
ESTÁ PROIBIDA A REPRODUÇÃO

TRIBUNAL MARÍTIMO

Tank Capacity Tables

DIESEL OIL SLUDGE TANK N1 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0	0,00	0,00	35,05	0,0	0,0	0,0
0,2	78,58	10,10	35,10	6,6	0,2	0,5
0,4	78,58	10,10	35,15	13,1	0,2	0,5
0,6	78,58	10,10	35,20	19,7	0,2	0,5
0,8	78,58	10,10	35,25	26,2	0,2	0,5
1,0	78,58	10,10	35,30	32,8	0,2	0,5
1,2	78,58	10,10	35,35	39,4	0,2	0,5
1,4	78,58	10,10	35,40	45,9	0,2	0,5
1,6	78,58	10,10	35,45	52,5	0,2	0,5
1,7	78,58	10,10	35,50	59,0	0,2	0,5
1,9	78,58	10,10	35,55	65,6	0,2	0,5
2,1	78,58	10,10	35,60	72,2	0,2	0,5
2,3	78,58	10,10	35,65	78,7	0,2	0,5
2,5	78,58	10,10	35,70	85,3	0,2	0,5
2,7	78,58	10,10	35,75	91,8	0,2	0,5
2,9	78,58	10,10	35,80	98,4	0,2	0,5
3,0	78,58	10,10	35,81	100,0	0,0	0,0

ESTE PAPEL É CÓPIA DO DOCUMENTO ORIGINAL

DIESEL OIL DAY TANK N2 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			36,58	0,0	0,0	0,0
4,5	74,60	-17,45	36,68	3,6	26,3	75,9
9,1	74,60	-17,45	36,78	7,1	26,3	75,9
13,6	74,60	-17,45	36,88	10,7	26,3	75,9
18,2	74,60	-17,45	36,98	14,3	26,3	75,9
22,7	74,60	-17,45	37,08	17,9	26,3	75,9
27,3	74,60	-17,45	37,18	21,4	26,3	75,9
31,8	74,60	-17,45	37,28	25,0	26,3	75,9
36,4	74,60	-17,45	37,38	28,6	26,3	75,9
40,9	74,60	-17,45	37,48	32,2	26,3	75,9
45,4	74,60	-17,45	37,58	35,7	26,3	75,9
50,0	74,60	-17,45	37,68	39,3	26,3	75,9
54,5	74,60	-17,45	37,78	42,9	26,3	75,9
59,1	74,60	-17,45	37,88	46,4	26,3	75,9
63,6	74,60	-17,45	37,98	50,0	26,3	75,9
68,2	74,60	-17,45	38,08	53,6	26,3	75,9
72,7	74,60	-17,45	38,18	57,2	26,3	75,9
77,3	74,60	-17,45	38,28	60,7	26,3	75,9
81,8	74,60	-17,45	38,38	64,3	26,3	75,9
86,3	74,60	-17,45	38,48	67,9	26,3	75,9
90,9	74,60	-17,45	38,58	71,5	26,3	75,9
95,4	74,60	-17,45	38,68	75,0	26,3	75,9
100,0	74,60	-17,45	38,78	78,6	26,3	75,9
104,5	74,60	-17,45	38,88	82,2	26,3	75,9
109,1	74,60	-17,45	38,98	85,7	26,3	75,9
113,6	74,60	-17,45	39,08	89,3	26,3	75,9
118,2	74,60	-17,45	39,18	92,9	26,3	75,9
122,7	74,60	-17,45	39,28	96,5	26,3	75,9
127,1	74,60	-17,45	39,37	99,9	26,3	75,9
127,2	74,60	-17,45	39,38	100,0	26,3	75,9

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DIESEL OIL DAY TANKS N3 STBD

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0	0,00	0,00	36,58	0,0	0,0	0,0
5,5	82,01	15,62	36,68	6,6	231,4	811,2
11,1	82,01	15,62	36,78	13,1	231,4	811,3
16,6	82,01	15,62	36,88	19,7	231,4	811,3
22,2	82,01	15,62	36,98	26,2	231,4	811,3
27,7	82,01	15,62	37,08	32,8	231,4	811,3
33,3	82,01	15,62	37,18	39,4	231,4	811,3
38,8	82,01	15,62	37,28	45,9	231,4	811,3
44,4	82,01	15,62	37,38	52,5	231,4	718,7
49,9	82,01	15,62	37,48	59,1	231,4	718,7
55,5	82,01	15,62	37,58	65,6	231,4	718,7
61,0	82,01	15,62	37,68	72,2	231,4	718,7
66,6	82,01	15,62	37,78	78,7	231,4	718,7
72,1	82,01	15,62	37,88	85,3	231,4	718,7
77,7	82,01	15,62	37,98	91,9	231,4	718,7
83,2	82,01	15,62	38,08	98,4	231,4	718,7
84,5	82,01	15,62	38,10	100,0	0,0	718,7

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DIESEL OIL SETTLING TANK N4 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0	0,00	0,00	36,58	0,0	0,0	0,0
5,5	79,15	15,62	36,68	6,6	231,4	19,3
11,1	79,15	15,62	36,78	13,1	231,4	19,3
16,6	79,15	15,62	36,88	19,7	231,4	19,3
22,2	79,15	15,62	36,98	26,2	231,4	19,3
27,7	79,15	15,62	37,08	32,8	231,4	19,3
33,3	79,15	15,62	37,18	39,4	231,4	19,3
38,9	79,15	15,62	37,28	46,1	231,4	19,3
44,4	79,15	15,62	37,38	52,5	231,4	19,3
49,9	79,15	15,62	37,48	59,1	231,4	19,3
55,7	79,15	15,62	37,58	65,9	231,4	19,3
61,0	79,15	15,62	37,68	72,2	231,4	19,3
66,6	79,15	15,62	37,78	78,7	231,4	19,3
72,1	79,15	15,62	37,88	85,3	231,4	19,3
77,7	79,15	15,62	37,98	91,9	231,4	19,3
83,2	79,15	15,62	38,08	98,4	231,4	19,3
84,5	79,15	15,62	38,10	100,0	0,0	0,0

CÓPIA CONTROLADA
DOCUMENTO ORIGINAL

Tank Capacity Tables

DIESEL OIL SETTLING TANK N1 PORT

Volume	LCG	TCG	VCG	%	Itrans	Ilong
0,0			36,58	0,0	0,0	
4,3	74,52	-13,91	36,68	3,5	21,5	74,9
8,6	74,52	-13,91	36,78	7,1	21,5	74,9
12,9	74,52	-13,91	36,88	10,6	21,5	74,9
17,2	74,52	-13,91	36,98	14,2	21,5	74,9
21,5	74,52	-13,91	37,08	17,7	21,5	74,9
25,8	74,52	-13,91	37,18	21,3	21,5	74,9
30,1	74,52	-13,91	37,28	24,8	21,5	74,9
34,4	74,52	-13,91	37,38	28,4	21,5	74,9
38,7	74,52	-13,91	37,48	31,9	21,5	74,9
43,0	74,52	-13,91	37,58	35,5	21,5	74,9
47,3	74,52	-13,91	37,68	39,0	21,5	74,9
51,6	74,52	-13,91	37,78	42,6	21,5	74,9
55,9	74,52	-13,91	37,88	46,1	21,5	74,9
60,2	74,52	-13,91	37,98	49,7	21,5	74,9
64,5	74,52	-13,91	38,08	53,2	21,5	74,9
68,8	74,52	-13,91	38,18	56,8	21,5	74,9
73,1	74,52	-13,91	38,28	60,3	21,5	74,9
77,4	74,52	-13,91	38,38	63,9	21,5	74,9
81,7	74,52	-13,91	38,48	67,4	21,5	74,9
86,0	74,52	-13,91	38,58	71,0	21,5	74,9
90,3	74,52	-13,91	38,68	74,5	21,5	74,9
94,6	74,52	-13,91	38,78	78,1	21,5	74,9
98,9	74,52	-13,91	38,88	81,6	21,5	74,9
103,2	74,52	-13,91	38,98	85,2	21,5	74,9
107,5	74,52	-13,91	39,08	88,7	21,5	74,9
111,8	74,52	-13,91	39,18	92,3	21,5	74,9
116,1	74,52	-13,91	39,28	95,8	21,5	74,9
120,4	74,52	-13,91	39,38	99,4	21,5	74,9
121,2	74,52	-13,91	39,39	100,0	21,5	74,9

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DIESEL OIL SERVICE TANK

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0	0,00	0,00	45,77	0,0	0,0	0,0
1,0	48,01	-21,15	45,87	8,1	0,6	9,1
2,1	48,01	-21,15	45,97	16,1	0,6	9,1
3,1	48,01	-21,15	46,07	24,2	0,6	9,1
4,1	48,01	-21,15	46,17	32,2	0,6	9,1
5,2	48,01	-21,15	46,27	40,3	0,6	9,1
6,2	48,01	-21,15	46,37	48,3	0,6	9,1
7,2	48,01	-21,15	46,47	56,4	0,6	9,1
8,3	48,01	-21,15	46,57	64,4	0,6	9,1
9,3	48,01	-21,15	46,67	72,5	0,6	9,1
10,3	48,01	-21,15	46,77	80,5	0,6	9,1
11,4	48,01	-21,15	46,87	88,6	0,6	9,1
12,4	48,01	-21,15	46,97	96,6	0,6	9,1
12,9	48,01	-21,15	47,01	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DRILL WATER TANKS N8 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
31,8	40,39	-24,38	0,26	11,5	238,2	652,3
66,4	40,39	-24,25	0,51	24,0	273,8	683,2
102,1	40,39	-24,17	0,77	36,9	286,4	693,5
110,1	40,39	-24,00	0,84	39,8	1,8	128,4
116,8	40,39	-23,84	0,92	42,2	1,8	128,4
123,4	40,39	-23,70	1,02	44,6	1,8	128,4
130,0	40,39	-23,57	1,13	47,0	1,8	128,4
136,7	40,39	-23,45	1,26	49,4	1,8	128,4
143,3	40,39	-23,35	1,40	51,8	1,8	128,4
149,9	40,39	-23,26	1,55	54,2	1,8	128,4
156,6	40,39	-23,17	1,70	56,6	1,8	128,4
163,2	40,39	-23,09	1,87	59,0	1,8	128,4
169,9	40,39	-23,02	2,04	61,4	1,8	128,4
176,5	40,39	-22,95	2,22	63,8	1,8	128,4
183,1	40,39	-22,89	2,40	66,2	1,8	128,4
208,5	40,39	-23,01	3,05	75,4	274,4	628,1
239,2	40,39	-23,15	3,72	86,5	254,5	612,3
268,6	40,39	-23,27	4,27	97,2	208,2	570,6
276,5	40,39	-23,31	4,41	100,0	0,0	0,0

Tank Capacity Tables

DRILL WATER TANKS N8 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
31,8	40,39	24,38	0,26	11,5	238,2	652,3
66,4	40,39	24,25	0,51	24,0	273,8	683,2
102,1	40,39	24,17	0,77	36,9	286,4	693,5
110,1	40,39	24,00	0,84	39,8	1,8	128,4
116,8	40,39	23,84	0,92	42,2	1,8	128,4
123,4	40,39	23,70	1,02	44,6	1,8	128,4
130,0	40,39	23,57	1,13	47,0	1,8	128,4
136,7	40,39	23,45	1,26	49,4	1,8	128,4
143,3	40,39	23,35	1,40	51,8	1,8	128,4
149,9	40,39	23,26	1,55	54,2	1,8	128,4
156,6	40,39	23,17	1,70	56,6	1,8	128,4
163,2	40,39	23,09	1,87	59,0	1,8	128,4
169,9	40,39	23,02	2,04	61,4	1,8	128,4
176,5	40,39	22,95	2,22	63,8	1,8	128,4
183,1	40,39	22,89	2,40	66,2	1,8	128,4
208,5	40,39	23,01	3,05	75,4	274,4	628,1
239,2	40,39	23,15	3,72	86,5	254,5	612,3
268,6	40,39	23,27	4,27	97,2	208,2	570,6
276,5	40,39	23,31	4,41	100,0	0,0	0,0

Tank Capacity Tables

DRILL WATER TANKS N9 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
31,5	40,44	-30,45	0,26	12,7	227,6	623,8
65,3	40,44	-30,45	0,51	26,3	259,3	644,5
100,0	40,44	-30,45	0,77	40,2	270,6	651,4
106,2	40,44	-30,45	0,82	42,7	1,0	71,2
111,0	40,44	-30,45	0,88	44,6	1,0	71,2
115,8	40,44	-30,45	0,96	46,6	1,0	71,2
120,6	40,44	-30,45	1,05	48,5	1,0	71,2
125,3	40,44	-30,45	1,16	50,4	1,0	71,2
130,1	40,44	-30,45	1,27	52,3	1,0	71,2
134,9	40,44	-30,45	1,39	54,2	1,0	71,2
139,7	40,44	-30,45	1,52	56,2	1,0	71,2
144,4	40,44	-30,45	1,66	58,1	1,0	71,2
149,2	40,44	-30,45	1,81	60,0	1,0	71,2
154,0	40,44	-30,45	1,96	61,9	1,0	71,2
158,7	40,44	-30,45	2,12	63,8	1,0	71,2
182,9	40,44	-30,45	2,87	73,5	257,6	591,8
212,7	40,44	-30,45	3,63	85,5	236,4	576,8
241,2	40,44	-30,45	4,23	97,0	187,3	537,7
248,7	40,44	-30,45	4,38	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DRILL WATER TANKS N9 STBD

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	
31,5	40,44	30,45	0,26	12,7	227,6	623,8
65,3	40,44	30,45	0,51	26,3	259,3	644,5
100,0	40,44	30,45	0,77	40,2	270,6	651,4
106,2	40,44	30,45	0,82	42,7	1,0	71,2
111,0	40,44	30,45	0,88	44,6	1,0	71,2
115,8	40,44	30,45	0,96	46,6	1,0	71,2
120,6	40,44	30,45	1,05	48,5	1,0	71,2
125,3	40,44	30,45	1,16	50,4	1,0	71,2
130,1	40,44	30,45	1,27	52,3	1,0	71,2
134,9	40,44	30,45	1,39	54,2	1,0	71,2
139,7	40,44	30,45	1,52	56,2	1,0	71,2
144,4	40,44	30,45	1,66	58,1	1,0	71,2
149,2	40,44	30,45	1,81	60,0	1,0	71,2
154,0	40,44	30,45	1,96	61,9	1,0	71,2
158,7	40,44	30,45	2,12	63,8	1,0	71,2
182,9	40,44	30,45	2,87	73,5	257,6	591,8
212,7	40,44	30,45	3,63	85,5	236,4	576,8
241,2	40,44	30,45	4,23	97,0	187,3	537,7
248,7	40,44	30,45	4,38	100,0	0,0	0,0

ESTA PEÇA FAZ PARTE DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DRILL WATER TANKS N14 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
31,8	72,39	-24,38	0,26	11,7	238,2	652,1
66,4	72,39	-24,25	0,51	24,4	273,8	683,1
102,1	72,39	-24,17	0,77	37,5	286,4	693,5
109,0	72,39	-24,00	0,83	40,0	1,0	110,6
114,5	72,39	-23,84	0,90	42,1	1,0	110,6
120,0	72,39	-23,70	0,98	44,1	1,0	110,6
125,5	72,39	-23,57	1,08	46,1	1,0	110,6
131,0	72,39	-23,45	1,20	48,1	1,0	110,6
136,5	72,39	-23,35	1,32	50,1	1,0	110,6
141,5	72,39	-23,26	1,44	52,0	1,0	95,3
146,2	72,39	-23,17	1,56	53,7	1,0	95,3
151,0	72,39	-23,09	1,69	55,4	1,0	95,3
156,2	72,39	-23,02	1,84	57,3	1,0	110,6
161,7	72,39	-22,95	2,01	59,4	1,0	110,6
167,2	72,39	-22,89	2,18	61,4	1,0	110,6
195,6	72,39	-23,01	3,00	71,8	280,8	600,9
230,7	72,39	-23,15	3,80	84,7	250,8	663,4
263,7	72,39	-23,27	4,42	96,8	189,0	601,6
272,3	72,39	-23,31	4,57	100,0	0,0	0,0

ESTA COPIA FOI DOCUMENTO ORIGINAL

Tank Capacity Tables

DRILL WATER TANKS N14 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
31,8	72,39	24,38	0,26	11,7	238,2	652,1
66,4	72,39	24,38	0,51	24,4	273,8	683,1
102,1	72,39	24,38	0,77	37,5	286,4	693,5
109,0	72,39	24,38	0,83	40,0	1,1	110,6
114,5	72,39	24,38	0,90	42,1	1,1	110,6
120,0	72,39	24,38	0,98	44,1	1,1	110,6
125,5	72,39	24,38	1,08	46,1	1,1	110,6
131,0	72,39	24,38	1,20	48,1	1,1	110,6
136,5	72,39	24,38	1,32	50,1	1,1	110,6
141,5	72,39	24,38	1,44	52,0	1,0	95,3
146,2	72,39	24,38	1,56	53,7	1,0	95,3
151,0	72,39	24,38	1,69	55,4	1,0	95,3
156,2	72,39	24,38	1,84	57,3	1,1	110,6
161,7	72,39	24,38	2,01	59,4	1,1	110,6
167,2	72,39	24,38	2,18	61,4	1,1	110,6
195,6	72,39	24,38	3,00	71,8	280,8	600,9
230,7	72,39	24,38	3,80	84,7	250,8	663,4
263,7	72,39	24,38	4,42	96,8	187,0	601,6
272,3	72,39	24,38	4,57	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DRILL WATER TANKS N15 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
31,5	72,34	-30,45	0,26	12,1	227,6	623,8
64,9	72,34	-30,45	0,51	25,0	252,9	522,8
97,3	72,34	-30,45	0,76	37,4	264,2	529,3
103,5	72,34	-30,45	0,81	39,7	1,0	71,2
108,3	72,34	-30,45	0,88	41,6	1,0	71,2
113,1	72,34	-30,45	0,96	43,4	1,0	71,2
117,9	72,34	-30,45	1,05	45,3	1,0	71,2
122,7	72,34	-30,45	1,16	47,1	1,0	71,2
127,5	72,34	-30,45	1,27	49,0	1,0	71,2
132,3	72,34	-30,45	1,40	50,8	1,0	71,2
137,2	72,34	-30,45	1,53	52,7	1,0	71,2
142,0	72,34	-30,45	1,68	54,5	1,0	71,2
146,8	72,34	-30,45	1,83	56,4	1,0	71,2
151,6	72,34	-30,45	1,98	58,2	1,0	71,2
156,4	72,34	-30,45	2,15	60,1	1,0	71,2
184,0	72,34	-30,45	2,99	70,7	267,1	71,2
218,4	72,34	-30,45	3,82	83,9	247,1	649,3
251,4	72,34	-30,45	4,47	96,6	201,0	636,7
260,3	72,34	-30,45	4,62	100,0	0,0	603,3

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

DIVISÃO JUDICIÁRIA PESSOAL MARÍTIMO 8993

Tank Capacity Tables

DRILL WATER TANKS N15 STBD

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	
31,5	72,34	30,45	0,26	12,1	227,6	623,8
64,9	72,34	30,45	0,51	25,0	252,9	522,8
97,3	72,34	30,45	0,76	37,4	264,2	529,3
103,5	72,34	30,45	0,81	39,7	1,0	71,2
108,3	72,34	30,45	0,88	41,6	1,0	71,2
113,1	72,34	30,45	0,96	43,4	1,0	71,2
117,9	72,34	30,45	1,05	45,3	1,0	71,2
122,7	72,34	30,45	1,16	47,1	1,0	71,2
127,5	72,34	30,45	1,27	49,0	1,0	71,2
132,3	72,34	30,45	1,40	50,8	1,0	71,2
137,2	72,34	30,45	1,53	52,7	1,0	71,2
142,0	72,34	30,45	1,68	54,5	1,0	71,2
146,8	72,34	30,45	1,83	56,4	1,0	71,2
151,6	72,34	30,45	1,98	58,2	1,0	71,2
156,4	72,34	30,45	2,15	60,1	1,0	71,2
184,0	72,34	30,45	2,99	70,7	267,1	71,2
218,4	72,34	30,45	3,82	83,9	247,1	649,3
251,4	72,34	30,45	4,47	96,6	201,0	636,7
260,3	72,34	30,45	4,62	100,0	0,0	603,3

CÓPIA NÃO CONTROLADA

Tank Capacity Tables

POTABLE WATER TANK 1 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			22,60	0,0	0,0	0,0
8,0	84,58	-29,99	22,99	4,1	62,9	286,6
15,9	84,58	-29,99	23,11	8,2	62,9	286,6
23,9	84,58	-29,99	23,24	12,3	62,9	286,6
31,8	84,58	-29,99	23,36	16,4	62,9	286,6
39,8	84,58	-29,99	23,49	20,5	62,9	286,6
47,7	84,58	-29,99	23,61	24,6	62,9	286,6
55,7	84,58	-29,99	23,74	28,7	62,9	286,6
63,6	84,58	-29,99	23,86	32,8	62,9	286,6
71,6	84,58	-29,99	23,99	36,9	62,9	286,6
79,5	84,58	-29,99	24,11	41,0	62,9	286,6
87,5	84,58	-29,99	24,24	45,1	62,9	286,6
95,4	84,58	-29,99	24,36	49,2	62,9	286,6
103,4	84,58	-29,99	24,49	53,3	62,9	286,6
111,4	84,58	-29,99	24,61	57,4	62,9	286,6
119,3	84,58	-29,99	24,74	61,5	62,9	286,6
127,3	84,58	-29,99	24,86	65,6	62,9	286,6
135,2	84,58	-29,99	24,99	69,7	62,9	286,6
143,2	84,58	-29,99	25,11	73,8	62,9	286,6
151,1	84,58	-29,99	25,24	77,9	62,9	286,6
159,1	84,58	-29,99	25,36	82,0	62,9	286,6
167,0	84,58	-29,99	25,49	86,1	62,9	286,6
175,0	84,58	-29,99	25,61	90,2	62,9	286,6
182,9	84,58	-29,99	25,74	94,3	62,9	286,6
190,9	84,58	-29,99	25,86	98,4	62,9	286,6
194,0	84,58	-29,99	25,91	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

POTABLE WATER TANK 1 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			22,86	0,0	0,0	
8,0	84,58	29,99	22,99	4,1	62,9	286,6
15,9	84,58	29,99	23,11	8,2	62,9	286,6
23,9	84,58	29,99	23,24	12,3	62,9	286,6
31,8	84,58	29,99	23,36	16,4	62,9	286,6
39,8	84,58	29,99	23,49	20,5	62,9	286,6
47,7	84,58	29,99	23,61	24,6	62,9	286,6
55,7	84,58	29,99	23,74	28,7	62,9	286,6
63,6	84,58	29,99	23,86	32,8	62,9	286,6
71,6	84,58	29,99	23,99	36,9	62,9	286,6
79,5	84,58	29,99	24,11	41,0	62,9	286,6
87,5	84,58	29,99	24,24	45,1	62,9	286,6
95,4	84,58	29,99	24,36	49,2	62,9	286,6
103,4	84,58	29,99	24,49	53,3	62,9	286,6
111,4	84,58	29,99	24,61	57,4	62,9	286,6
119,3	84,58	29,99	24,74	61,5	62,9	286,6
127,3	84,58	29,99	24,86	65,6	62,9	286,6
135,2	84,58	29,99	24,99	69,7	62,9	286,6
143,2	84,58	29,99	25,11	73,8	62,9	286,6
151,1	84,58	29,99	25,24	77,9	62,9	286,6
159,1	84,58	29,99	25,36	82,0	62,9	286,6
167,0	84,58	29,99	25,49	86,1	62,9	286,6
175,0	84,58	29,99	25,61	90,2	62,9	286,6
182,9	84,58	29,99	25,74	94,3	62,9	286,6
190,9	84,58	29,99	25,86	98,4	62,9	286,6
194,0	84,58	29,99	25,91	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DAILY POTABLE WATER TANK

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0	78,87		0,00	0,0	0,0	0,0
1,0	78,87	4,98	36,68	6,6	2,1	2,2
2,0	78,87	4,98	36,78	13,1	2,1	2,2
3,0	78,87	4,98	36,88	19,7	2,1	2,2
4,0	78,87	4,98	36,98	26,2	2,1	2,2
4,9	78,87	4,98	37,08	32,5	2,1	2,2
6,0	78,87	4,98	37,18	39,4	2,1	2,2
7,0	78,87	4,98	37,28	45,9	2,1	2,2
8,0	78,87	4,98	37,38	52,5	2,1	2,2
9,0	78,87	4,98	37,48	59,0	2,1	2,2
10,0	78,87	4,98	37,58	65,6	2,1	2,2
11,0	78,87	4,98	37,68	72,2	2,1	2,2
12,0	78.87	4,98	37,78	78,7	2,1	2,2
13,0	78,87	4,98	37,88	85,3	2,1	2,2
14,0	78,87	4,98	37,98	91,9	2,1	2,2
15,0	78,87	4,98	38,08	98,4	2,1	2,2
15,2		4,98	38,10	100,0	0,0	0,0

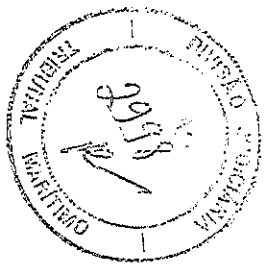
CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

DRAINS STORAGE TANK 1 PORT

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	0,0
20,0	84,96	-22,97	20,06	4,4	131,5	922,0
40,0	84,96	-22,97	20,31	8,9	131,5	922,0
60,0	84,96	-22,97	20,56	13,3	131,5	922,0
80,0	84,96	-22,97	20,81	17,7	131,5	922,0
100,0	84,96	-22,97	21,06	22,2	131,5	922,0
120,0	84,96	-22,97	21,31	26,6	131,5	922,0
141,5	84,96	-22,97	21,58	31,3	138,4	1018,4
163,1	84,96	-22,97	21,84	36,1	138,4	1018,4
184,7	84,96	-22,97	22,10	40,9	138,4	1018,4
206,4	84,96	-22,97	22,36	45,7	138,4	1018,4
228,0	84,96	-22,97	22,62	50,5	138,4	1018,4
249,6	84,96	-22,97	22,87	55,3	138,4	1018,4
271,2	84,96	-22,97	23,12	60,1	138,4	1018,4
292,8	84,96	-22,97	23,38	64,9	138,4	1018,4
314,5	84,96	-22,97	23,63	69,7	138,4	1018,4
336,1	84,96	-22,97	23,88	74,4	138,4	1018,4
357,3	84,96	-22,97	24,14	79,2	138,4	1018,4
379,3	84,96	-22,97	24,39	84,0	138,4	1018,4
400,9	84,96	-22,97	24,64	88,8	138,4	1018,4
422,5	84,96	-22,97	24,89	93,6	138,4	1018,4
444,2	84,96	-22,97	25,14	98,4	138,4	1018,4
451,4	84,96	-22,97	25,23	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL



Tank Capacity Tables

DRAINS STORAGE TANK 1 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
20,0	84,96	22,97	20,06	4,4	131,5	922,0
40,0	84,96	22,97	20,31	8,9	131,5	922,0
60,0	84,96	22,97	20,56	13,3	131,5	922,0
80,0	84,96	22,97	20,81	17,7	131,5	922,0
100,0	84,96	22,97	21,06	22,2	131,5	922,0
120,0	84,96	22,97	21,31	26,6	131,5	922,0
141,5	84,96	22,97	21,58	31,3	138,4	1018,4
163,1	84,96	22,97	21,84	36,1	138,4	1018,4
184,7	84,96	22,97	22,10	40,9	138,4	1018,4
206,4	84,96	22,97	22,36	45,7	138,4	1018,4
228,0	84,96	22,97	22,62	50,5	138,4	1018,4
249,6	84,96	22,97	22,87	55,3	138,4	1018,4
271,2	84,96	22,97	23,12	60,1	138,4	1018,4
292,8	84,96	22,97	23,38	64,9	138,4	1018,4
314,5	84,96	22,97	23,63	69,7	138,4	1018,4
336,1	84,96	22,97	23,88	74,4	138,4	1018,4
357,3	84,96	22,97	24,14	79,2	138,4	1018,4
379,3	84,96	22,97	24,39	84,0	138,4	1018,4
400,9	84,96	22,97	24,64	88,8	138,4	1018,4
422,5	84,96	22,97	24,89	93,6	138,4	1018,4
444,2	84,96	22,97	25,14	98,4	138,4	1018,4
451,4	84,96	22,97	25,23	100,0	0,0	0,0

EXEMPLAR DE CONSULTA

Tank Capacity Tables

WASTE OIL TANKS N1 PORT

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	0,0
1,3	80,72	24,56	21,59	6,6	0,3	1,0
2,5	80,72	24,56	21,84	13,1	0,3	1,0
3,8	80,72	24,56	22,09	19,7	0,3	1,0
5,0	80,72	24,56	22,34	26,2	0,3	1,0
6,3	80,72	24,56	22,59	32,8	0,3	1,0
7,5	80,72	24,56	22,84	39,4	0,3	1,0
8,8	80,72	24,56	23,09	45,9	0,3	1,0
10,1	80,72	24,56	23,34	52,5	0,3	1,0
11,3	80,72	24,56	23,59	59,1	0,3	1,0
12,6	80,72	24,56	23,84	65,6	0,3	1,0
13,8	80,72	24,56	24,09	72,2	0,3	1,0
15,1	80,72	24,56	24,34	78,7	0,3	1,0
16,3	80,72	24,56	24,59	85,3	0,3	1,0
17,6	80,72	24,56	24,84	91,9	0,3	1,0
18,9	80,72	24,56	25,09	98,4	0,3	1,0
19,2	80,72	24,56	25,15	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

WASTE OIL TANK N1 STBD

Volume	LCG	TCG	VCG	%	I_{trans}	I_{long}
0,0			0,00	0,0	0,0	
1,3	80,72	24,56	21,59	6,6	0,3	1,0
2,5	80,72	24,56	21,84	13,1	0,3	1,0
3,8	80,72	24,56	22,09	19,7	0,3	1,0
5,0	80,72	24,56	22,34	26,2	0,3	1,0
6,3	80,72	24,56	22,59	32,8	0,3	1,0
7,5	80,72	24,56	22,84	39,4	0,3	1,0
8,8	80,72	24,56	23,09	45,9	0,3	1,0
10,1	80,72	24,56	23,34	52,5	0,3	1,0
11,3	80,72	24,56	23,59	59,1	0,3	1,0
12,6	80,72	24,56	23,84	65,6	0,3	1,0
13,8	80,72	24,56	24,09	72,2	0,3	1,0
15,1	80,72	24,56	24,34	78,7	0,3	1,0
16,3	80,72	24,56	24,59	85,3	0,3	1,0
17,6	80,72	24,56	24,84	91,9	0,3	1,0
18,9	80,72	24,56	25,09	98,4	0,3	1,0
19,2	80,72	24,56	25,15	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

BILGE HOLDING TANK PORT

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	0,0
0,3	78,49	-26,29	0,05	6,5	0,0	0,7
0,7	78,49	-26,29	0,10	13,1	0,0	0,7
1,0	78,49	-26,29	0,15	19,6	0,0	0,7
1,4	78,49	-26,29	0,20	26,2	0,6	0,7
1,7	78,49	-26,29	0,25	32,7	0,6	0,7
2,1	78,49	-26,29	0,30	39,2	0,6	0,7
2,4	78,49	-26,29	0,35	45,8	0,6	0,7
2,8	78,49	-26,29	0,40	52,3	0,6	0,7
3,1	78,49	-26,29	0,45	58,9	0,6	0,7
3,4	78,49	-26,29	0,50	65,4	0,6	0,7
3,8	78,49	-26,29	0,55	71,9	0,6	0,7
4,1	78,49	-26,29	0,60	78,5	0,6	0,7
4,5	78,49	-26,29	0,65	85,0	0,6	0,7
4,8	78,49	-26,29	0,70	91,6	0,6	0,7
5,2	78,49	-26,29	0,75	98,1	0,6	0,7
5,3	78,49	-26,29	0,76	100,0	0,0	0,0

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Tank Capacity Tables

BILGE HOLDING TANK STBD

Volume	LCG	TCG	VCG	%	l_{trans}	l_{long}
0,0			0,00	0,0	0,0	0,0
0,3	78,49	26,29	0,05	6,5	1,5	0,7
0,7	78,49	26,29	0,10	13,1	1,5	0,7
1,0	78,49	26,29	0,15	19,6	1,5	0,7
1,4	78,49	26,29	0,20	26,2	1,5	0,7
1,7	78,49	26,29	0,25	32,7	1,5	0,7
2,1	78,49	26,29	0,30	39,2	1,5	0,7
2,4	78,49	26,29	0,35	45,8	1,5	0,7
2,8	78,49	26,29	0,40	52,3	1,5	0,7
3,1	78,49	26,29	0,45	58,9	1,5	0,7
3,4	78,49	26,29	0,50	65,4	1,5	0,7
3,8	78,49	26,29	0,55	71,9	1,5	0,7
4,1	78,49	26,29	0,60	78,5	1,5	0,7
4,5	78,49	26,29	0,65	85,0	1,5	0,7
4,8	78,49	26,29	0,70	91,6	1,5	0,7
5,2	78,49	26,29	0,75	98,1	1,5	0,7
5,3	78,49	26,29	0,76	100,0	0,0	0,0

CÓPIA EM DESENHO ORIGINAL

DRAFT	VOLUME	Δ (SW)	LCB	TCB	VCB	WPA	LCF	TCF	KMT	KML	MCT* F(GML)	MCH* F(GMT)	TPC	Allow VCG	Stability Condition
(m)	(m^3)	(tonnes)	(m)	(m)	(m)	(m^2)	(m)	(m)	(m)	(m)	(tm-cm)	(tm-cm)	(t)	(m)	
10,0m	33473	34310	-0,68	-0,02	4,95	2618	-2,27	-0,02	73,1	111,5	3,04	4,41	26,3	72,80	Temporary
10,1m	33735	34579	-0,70	-0,02	4,98	2618	-2,27	-0,02	72,6	110,7	3,07	4,45	26,3	72,30	Temporary
10,2m	33997	34847	-0,71	-0,02	5,02	2618	-2,27	-0,02	72,1	110	3,09	4,48	26,3	71,80	Temporary
10,3m	34259	35115	-0,72	-0,02	5,06	2618	-2,27	-0,02	71,6	109,2	3,11	4,52	26,3	71,30	Temporary
10,4m	34520	35383	-0,73	-0,02	5,10	2618	-2,27	-0,02	71,2	108,5	3,14	4,55	26,3	70,90	Temporary
10,5m	34782	35652	-0,74	-0,02	5,14	2618	-2,27	-0,02	70,7	107,7	3,16	4,59	26,3	70,40	Transit
10,6m	35044	35920	-0,75	-0,02	5,19	2618	-2,27	-0,02	70,3	107	3,19	4,62	26,3	70,00	Temporary
10,7m	35312	36194	-0,77	-0,02	5,23	2764	-2,15	-0,02	70,6	108,4	3,21	4,66	27,8	70,30	Temporary
10,8m	35593	36483	-0,78	-0,02	5,27	2853	-2,08	-0,02	70,6	108,9	3,23	4,69	28,7	70,30	Temporary
10,9m	35881	36778	-0,79	-0,02	5,32	2913	-2,04	-0,02	70,4	109	3,26	4,73	29,3	70,10	Temporary
11,0m	36179	37083	-0,80	-0,02	5,36	3337	-1,78	-0,02	70,5	109,2	3,29	4,77	33,6	44,90	Transit
11,1m	36515	37427	-0,81	-0,02	5,41	3375	-1,76	-0,02	70,1	108,8	3,32	4,82	33,9	69,80	Temporary
11,2m	36854	37775	-0,81	-0,02	5,47	3406	-1,75	-0,02	69,7	108,3	3,35	4,86	34,2	69,40	Temporary
11,3m	37196	38125	-0,82	-0,02	5,52	3432	-1,73	-0,02	69,3	107,8	3,38	4,91	34,5	69,00	Temporary
11,4m	37540	38478	-0,83	-0,02	5,57	3454	-1,72	-0,02	68,9	107,2	3,41	4,95	34,7	68,60	Temporary
11,5m	37886	38833	-0,84	-0,02	5,63	3473	-1,71	-0,02	68,5	106,6	3,44	5,00	34,9	68,20	Temporary
11,6m	38234	39190	-0,85	-0,02	5,68	3488	-1,70	-0,02	68	105,9	3,48	5,04	35,1	67,70	Temporary
11,7m	38584	39548	-0,85	-0,02	5,73	3501	-1,70	-0,02	67,6	105,2	3,51	5,09	35,2	67,30	Temporary
11,8m	38934	39908	-0,86	-0,02	5,79	3511	-1,69	-0,02	67,1	104,5	3,54	5,13	35,3	66,80	Temporary
11,9m	39286	40268	-0,87	-0,02	5,84	3519	-1,69	-0,02	66,7	103,8	3,57	5,18	35,4	66,40	Temporary
12,0m	39638	40629	-0,88	-0,02	5,90	3524	-1,69	-0,02	66,2	103	3,60	5,23	35,4	65,90	Temporary
12,1m	39991	40991	-0,88	-0,02	5,95	3528	-1,69	-0,02	65,8	102,3	3,63	5,27	35,5	65,50	Temporary
12,2m	40326	41335	-0,89	-0,02	6,00	1863	0,00	-0,03	28,8	34,5	3,67	5,32	18,7	28,50	Temporary
12,3m	40513	41526	-0,89	-0,02	6,03	1864	0,00	-0,03	28,8	34,4	3,68	5,34	18,7	28,50	Temporary
12,4m	40699	41717	-0,88	-0,02	6,06	1866	-0,02	-0,03	28,8	34,4	3,70	5,37	18,8	28,50	Temporary
12,5m	40886	41908	-0,88	-0,02	6,09	1863	-0,02	-0,03	28,8	34,3	3,72	5,39	18,7	28,50	Temporary
12,6m	41072	42099	-0,87	-0,02	6,12	1858	-0,02	-0,03	28,7	34,1	3,73	5,42	18,7	28,40	Temporary
12,7m	41257	42289	-0,87	-0,02	6,15	1850	-0,02	-0,03	28,7	34	3,75	5,44	18,6	28,40	Temporary
12,8m	41442	42478	-0,87	-0,02	6,18	1839	-0,02	-0,03	28,6	33,8	3,77	5,47	18,5	28,30	Temporary
12,9m	41625	42666	-0,86	-0,02	6,21	1825	-0,02	-0,03	28,6	33,5	3,78	5,49	18,4	28,30	Temporary
13,0m	41807	42852	-0,86	-0,02	6,24	1809	-0,02	-0,03	28,5	33,3	3,80	5,51	18,2	28,20	Temporary
13,1m	41987	43036	-0,86	-0,02	6,27	1788	-0,02	-0,03	28,4	33	3,82	5,54	18,0	28,10	Temporary
13,2m	42164	43218	-0,85	-0,02	6,30	1764	-0,02	-0,03	28,3	32,6	3,83	5,56	17,7	28,00	Temporary
13,3m	42339	43398	-0,85	-0,02	6,32	1734	-0,02	-0,03	28,2	32,2	3,85	5,58	17,4	27,90	Temporary
13,4m	42511	43574	-0,85	-0,02	6,35	1698	-0,02	-0,03	28	31,7	3,86	5,61	17,1	27,70	Temporary
13,5m	42678	43745	-0,84	-0,02	6,38	1652	-0,02	-0,03	27,9	31,1	3,88	5,63	16,6	27,60	Temporary
13,6m	42841	43912	-0,84	-0,02	6,41	1591	-0,02	-0,04	27,6	30,4	3,89	5,65	16,0	27,30	Temporary
13,7m	42996	44071	-0,84	-0,02	6,43	1493	-0,02	-0,04	27,2	29,2	3,91	5,67	15,0	26,90	Temporary
13,8m	43136	44215	-0,83	-0,02	6,46	1376	-0,03	-0,04	26,7	27,8	3,92	5,69	13,8	26,40	Temporary
13,9m	43274	44356	-0,83	-0,02	6,48	1378	-0,03	-0,04	26,8	27,8	3,93	5,71	13,9	26,50	Temporary
14,0m	43412	44497	-0,83	-0,02	6,50	1381	-0,03	-0,04	26,8	27,8	3,95	5,73	13,9	26,50	Temporary

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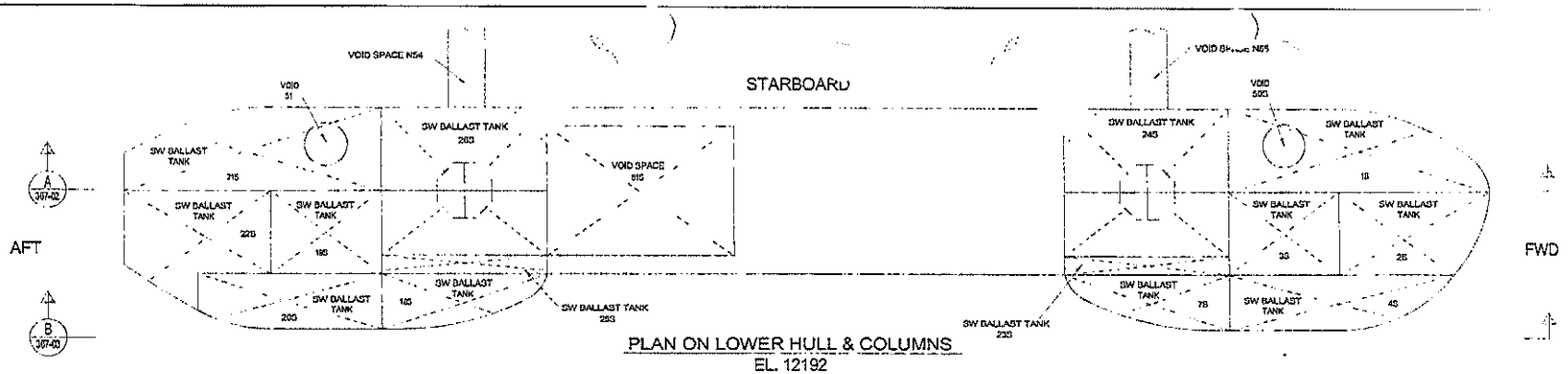
DRAFT	VOLUME	Δ (SW)	LCB	TCB	VCB	WPA	LCF	TCF	KMT	KML	MCT* *F*(GML)	MCH* *F*(GMT)	TPC	Allow VCG	Stability Condition
(m)	(m^3)	(tonnes)	(m)	(m)	(m)	(m^2)	(m)	(m)	(m)	(m)	(tm-cm)	(tm-cm)	(t)	(m)	
14,1m	43550	44639	-0,83	-0,02	6,53	1383	-0,03	-0,04	26,8	27,8	3,96	5,74	13,9	26,50	Temporary
14,2m	43689	44781	-0,82	-0,02	6,55	1386	-0,03	-0,04	26,9	27,9	3,97	5,76	13,9	26,60	Temporary
14,3m	43827	44923	-0,82	-0,02	6,58	1389	-0,03	-0,04	26,9	27,9	3,98	5,78	14,0	26,60	Temporary
14,4m	43966	45065	-0,82	-0,02	6,60	1391	-0,03	-0,04	26,9	27,9	4,00	5,80	14,0	26,60	Temporary
14,5m	44106	45208	-0,82	-0,02	6,63	1394	-0,03	-0,04	27	27,9	4,01	5,82	14,0	26,70	Temporary
14,6m	44245	45351	-0,81	-0,02	6,65	1397	-0,03	-0,04	27	27,9	4,02	5,84	14,0	26,70	Temporary
14,7m	44385	45495	-0,81	-0,02	6,68	1399	-0,03	-0,04	27,1	27,9	4,03	5,85	14,1	26,80	Temporary
14,8m	44525	45638	-0,81	-0,02	6,70	1402	-0,03	-0,04	27,1	28	4,05	5,87	14,1	26,80	Temporary
14,9m	44665	45782	-0,81	-0,02	6,73	1404	-0,03	-0,04	27,2	28	4,06	5,89	14,1	26,90	Temporary
15,0m	44806	45926	-0,80	-0,02	6,75	1407	-0,03	-0,04	27,2	28	4,07	5,91	14,1	26,90	Temporary
15,1m	44947	46070	-0,80	-0,02	6,78	1410	-0,03	-0,04	27,2	28	4,09	5,93	14,2	26,90	Temporary
15,2m	45088	46215	-0,80	-0,02	6,81	1412	-0,03	-0,04	27,3	28	4,10	5,95	14,2	27,00	Temporary
15,3m	45229	46360	-0,80	-0,02	6,83	1415	-0,03	-0,04	27,3	28	4,11	5,96	14,2	27,00	Temporary
15,4m	45371	46505	-0,79	-0,02	6,86	1417	-0,03	-0,04	27,4	28,1	4,12	5,98	14,3	27,10	Temporary
15,5m	45513	46650	-0,79	-0,02	6,89	1420	-0,03	-0,04	27,4	28,1	4,14	6,00	14,3	27,10	Temporary
15,6m	45655	46796	-0,79	-0,02	6,91	1423	-0,03	-0,04	27,4	28,1	4,15	6,02	14,3	27,10	Temporary
15,7m	45797	46942	-0,79	-0,02	6,94	1426	-0,03	-0,04	27,5	28,1	4,16	6,04	14,3	27,20	Temporary
15,8m	45940	47088	-0,78	-0,02	6,97	1430	-0,03	-0,04	27,5	28,1	4,18	6,06	14,4	27,20	Temporary
15,9m	46083	47235	-0,78	-0,02	6,99	1434	-0,03	-0,04	27,6	28,2	4,19	6,08	14,4	27,30	Temporary
16,0m	46227	47382	-0,78	-0,02	7,02	1438	-0,03	-0,04	27,7	28,2	4,20	6,10	14,5	27,40	Temporary
16,1m	46371	47530	-0,78	-0,02	7,05	1443	-0,03	-0,04	27,7	28,2	4,21	6,12	14,5	27,40	Temporary
16,2m	46515	47678	-0,77	-0,02	7,08	1447	-0,04	-0,04	27,8	28,3	4,23	6,13	14,6	27,50	Temporary
16,3m	46660	47827	-0,77	-0,02	7,11	1451	-0,04	-0,04	27,8	28,3	4,24	6,15	14,6	27,50	Temporary
16,4m	46805	47975	-0,77	-0,02	7,14	1454	-0,04	-0,04	27,8	28,3	4,25	6,17	14,6	27,50	Temporary
16,5m	46951	48125	-0,77	-0,02	7,16	1456	-0,04	-0,04	27,8	28,3	4,27	6,19	14,6	27,50	Temporary
16,6m	47097	48274	-0,77	-0,02	7,19	1458	-0,04	-0,04	27,8	28,3	4,28	6,21	14,7	27,50	Temporary
16,7m	47242	48424	-0,76	-0,02	7,22	1461	-0,04	-0,04	27,8	28,3	4,29	6,23	14,7	27,50	Temporary
16,8m	47389	48573	-0,76	-0,02	7,25	1463	-0,04	-0,04	27,8	28,3	4,31	6,25	14,7	27,50	Temporary
16,9m	47535	48724	-0,76	-0,02	7,28	1466	-0,04	-0,04	27,8	28,2	4,32	6,27	14,7	27,50	Temporary
17,0m	47682	48874	-0,76	-0,02	7,31	1468	-0,04	-0,04	27,8	28,2	4,33	6,29	14,8	27,50	Temporary
17,1m	47829	49025	-0,75	-0,02	7,34	1471	-0,04	-0,04	27,7	28,2	4,35	6,31	14,8	27,40	Temporary
17,2m	47976	49175	-0,75	-0,02	7,37	1473	-0,04	-0,04	27,7	28,2	4,36	6,33	14,8	27,40	Temporary
17,3m	48123	49327	-0,75	-0,02	7,40	1475	-0,04	-0,04	27,7	28,2	4,37	6,35	14,8	27,40	Temporary
17,4m	48271	49478	-0,75	-0,02	7,43	1477	-0,04	-0,04	27,7	28,2	4,39	6,37	14,9	27,40	Temporary
17,5m	48419	49629	-0,75	-0,02	7,46	1479	-0,04	-0,04	27,7	28,2	4,40	6,39	14,9	27,40	Temporary
17,6m	48567	49781	-0,74	-0,02	7,49	1481	-0,04	-0,04	27,7	28,2	4,41	6,41	14,9	27,40	Temporary
17,7m	48715	49933	-0,74	-0,02	7,52	1483	-0,04	-0,04	27,7	28,1	4,43	6,42	14,9	27,40	Temporary
17,8m	48864	50085	-0,74	-0,02	7,56	1484	-0,04	-0,04	27,6	28,1	4,44	6,44	14,9	27,30	Temporary
17,9m	49012	50237	-0,74	-0,02	7,59	1485	-0,04	-0,04	27,6	28,1	4,45	6,46	14,9	27,30	Temporary
18,0m	49161	50390	-0,74	-0,02	7,62	1485	-0,04	-0,04	27,6	28,1	4,47	6,48	14,9	25,23	Inspection
18,1m	49309	50542	-0,73	-0,02	7,65	1485	-0,04	-0,04	27,6	28	4,48	6,50	14,9	27,30	Temporary

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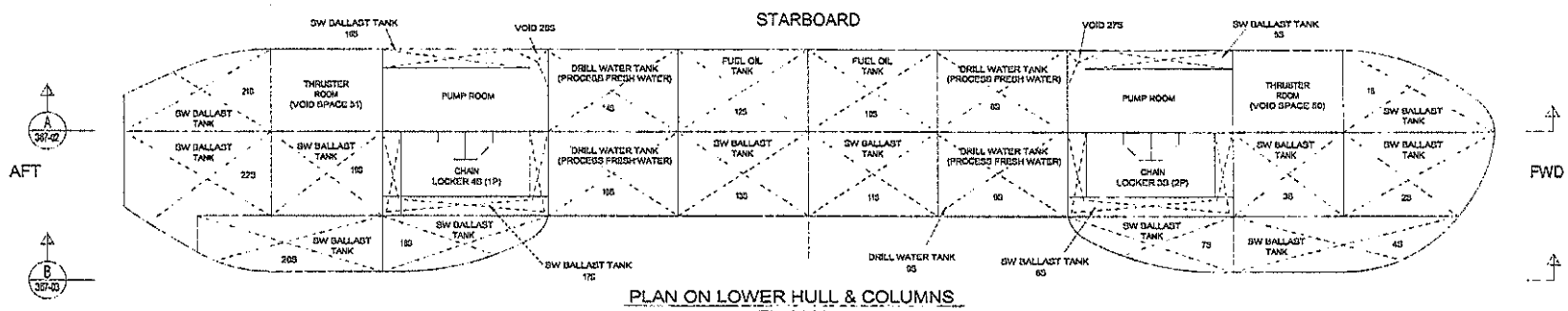
DRAFT	VOLUME	Δ (SW)	LCB	TCB	VCB	WPA	LCF	TCF	KMT	KML	MCT* *F*(GML)	MCH* *F*(GMT)	TPC	Allow VCG	Stability Condition
(m)	(m^3)	(tonnes)	(m)	(m)	(m)	(m^2)	(m)	(m)	(m)	(m)	(tm-cm)	(tm-cm)	(t)	(m)	
18,2m	49458	50694	-0,73	-0,02	7,68	1485	-0,04	-0,04	27,5	28	4,50	6,52	14,9	27,20	Temporary
18,3m	49606	50846	-0,73	-0,02	7,71	1485	-0,04	-0,04	27,5	28	4,51	6,54	14,9	27,20	Temporary
18,4m	49755	50998	-0,73	-0,02	7,74	1485	-0,04	-0,04	27,5	27,9	4,52	6,56	14,9	27,20	Temporary
18,5m	49903	51151	-0,72	-0,02	7,78	1485	-0,04	-0,04	27,4	27,9	4,54	6,58	14,9	27,10	Temporary
18,6m	50052	51303	-0,72	-0,02	7,81	1485	-0,04	-0,04	27,4	27,9	4,55	6,60	14,9	27,10	Temporary
18,7m	50200	51455	-0,72	-0,02	7,84	1485	-0,04	-0,04	27,4	27,8	4,56	6,62	14,9	27,10	Temporary
18,8m	50349	51607	-0,72	-0,02	7,87	1485	-0,04	-0,04	27,3	27,8	4,58	6,64	14,9	27,00	Temporary
18,9m	50497	51760	-0,72	-0,02	7,90	1485	-0,04	-0,04	27,3	27,8	4,59	6,66	14,9	27,00	Temporary
19,0m	50646	51912	-0,71	-0,02	7,94	1485	-0,04	-0,04	27,3	27,8	4,60	6,68	14,9	27,00	Temporary
19,1m	50794	52064	-0,71	-0,02	7,97	1485	-0,04	-0,04	27,3	27,7	4,62	6,70	14,9	27,00	Temporary
19,2m	50943	52216	-0,71	-0,02	8,00	1485	-0,04	-0,04	27,2	27,7	4,63	6,72	14,9	26,90	Temporary
19,3m	51091	52368	-0,71	-0,02	8,03	1485	-0,04	-0,04	27,2	27,7	4,64	6,74	14,9	26,90	Temporary
19,4m	51240	52521	-0,71	-0,02	8,07	1485	-0,04	-0,04	27,2	27,6	4,66	6,76	14,9	26,90	Temporary
19,5m	51388	52673	-0,71	-0,02	8,10	1485	-0,04	-0,04	27,2	27,6	4,67	6,78	14,9	26,90	Temporary
19,6m	51537	52825	-0,70	-0,02	8,13	1485	-0,04	-0,04	27,1	27,6	4,68	6,80	14,9	26,80	Temporary
19,7m	51685	52977	-0,70	-0,02	8,17	1485	-0,04	-0,04	27,1	27,6	4,70	6,82	14,9	26,80	Temporary
19,8m	51834	53129	-0,70	-0,02	8,20	1485	-0,04	-0,04	27,1	27,5	4,71	6,84	14,9	26,80	Temporary
19,9m	51983	53283	-0,70	-0,02	8,23	1496	-0,04	-0,04	27,2	27,6	4,72	6,86	15,0	26,90	Temporary
20,0m	52133	53436	-0,70	-0,02	8,27	1496	-0,04	-0,04	27,1	27,6	4,74	6,88	15,0	26,80	Temporary
20,1m	52282	53589	-0,69	-0,02	8,30	1496	-0,04	-0,04	27,1	27,6	4,75	6,90	15,0	26,80	Temporary
20,2m	52432	53743	-0,69	-0,02	8,33	1496	-0,04	-0,04	27,1	27,5	4,77	6,91	15,0	26,80	Temporary
20,3m	52582	53896	-0,69	-0,02	8,37	1496	-0,04	-0,04	27,1	27,5	4,78	6,93	15,0	26,80	Temporary
20,4m	52731	54050	-0,69	-0,02	8,40	1496	-0,04	-0,04	27,1	27,5	4,79	6,95	15,0	26,80	Temporary
20,5m	52881	54203	-0,69	-0,02	8,44	1496	-0,04	-0,04	27	27,5	4,81	6,97	15,0	26,70	Temporary
20,6m	53030	54356	-0,68	-0,02	8,47	1496	-0,04	-0,04	27	27,5	4,82	6,99	15,0	26,70	Temporary
20,7m	53180	54510	-0,68	-0,02	8,50	1496	-0,04	-0,04	27	27,4	4,83	7,01	15,0	26,70	Temporary
20,8m	53330	54663	-0,68	-0,02	8,54	1496	-0,04	-0,04	27	27,4	4,85	7,03	15,0	26,70	Temporary
20,9m	53479	54816	-0,68	-0,02	8,57	1496	-0,04	-0,04	27	27,4	4,86	7,05	15,0	26,70	Temporary
21,0m	53629	54970	-0,68	-0,02	8,61	1496	-0,04	-0,04	26,9	27,4	4,87	7,07	15,0	26,60	Temporary
21,1m	53779	55123	-0,68	-0,02	8,64	1496	-0,04	-0,04	26,9	27,3	4,89	7,09	15,0	26,60	Temporary
21,2m	53928	55276	-0,67	-0,02	8,68	1496	-0,04	-0,04	26,9	27,3	4,90	7,11	15,0	26,60	Temporary
21,3m	54078	55430	-0,67	-0,02	8,71	1496	-0,04	-0,04	26,9	27,3	4,92	7,13	15,0	26,60	Temporary
21,4m	54227	55583	-0,67	-0,02	8,75	1496	-0,04	-0,04	26,9	27,3	4,93	7,15	15,0	26,60	Temporary
21,5m	54377	55736	-0,67	-0,02	8,78	1496	-0,04	-0,04	26,8	27,3	4,94	7,17	15,0	26,50	Temporary
21,6m	54527	55890	-0,67	-0,02	8,82	1496	-0,04	-0,04	26,8	27,3	4,96	7,19	15,0	26,50	Temporary
21,7m	54676	56043	-0,67	-0,02	8,85	1496	-0,04	-0,04	26,8	27,2	4,97	7,21	15,0	26,50	Temporary
21,8m	54826	56197	-0,66	-0,02	8,89	1496	-0,04	-0,04	26,8	27,2	4,98	7,23	15,0	26,50	Temporary
21,9m	54976	56350	-0,66	-0,02	8,92	1496	-0,04	-0,04	26,8	27,2	5,00	7,25	15,0	26,50	Temporary
22,0m	55125	56503	-0,66	-0,02	8,96	1496	-0,04	-0,04	26,8	27,2	5,01	7,27	15,0	23,04	Operation / Survival
22,1m	55275	56657	-0,66	0,02	8,99	1496	-0,04	0,04	26,8	27,2	5,02	7,29	15,0	26,5	Temporary
22,2m	55424	56810	-0,66	0,02	9,03	1496	-0,04	0,04	26,7	27,2	5,04	7,31	15,0	26,4	Temporary

DRAFT	VOLUME	Δ (SW)	LCB	TCB	VCB	WPA	LCF	TCF	KMT	KML	MCT* F(GML)	MCH* F(GMT)	TPC	Allow VCG	Stability Condition
(m)	(m^3)	(tonnes)	(m)	(m)	(m)	(m^2)	(m)	(m)	(m)	(m)	(tm-cm)	(tm-cm)	(t)	(m)	
22,3m	55574	56963	-0,66	0,02	9,06	1496	-0,04	0,04	26,7	27,1	5,05	7,33	15,0	26,4	Temporary
22,4m	55724	57117	-0,65	0,02	9,10	1496	-0,04	0,04	26,7	27,1	5,06	7,35	15,0	26,4	Temporary
22,5m	55873	57270	-0,65	0,03	9,14	1496	-0,04	0,04	26,7	27,1	5,08	7,37	15,0	26,4	Temporary
22,6m	56023	57423	-0,65	0,03	9,17	1496	-0,04	0,04	26,7	27,1	5,09	7,39	15,0	26,4	Temporary
22,7m	56172	57577	-0,65	0,03	9,21	1496	-0,04	0,04	26,7	27,1	5,11	7,41	15,0	26,4	Temporary
22,8m	56322	57730	-0,65	0,03	9,24	1496	-0,04	0,04	26,7	27,1	5,12	7,43	15,0	26,4	Temporary
22,9m	56472	57883	-0,65	0,03	9,28	1496	-0,04	0,04	26,6	27,1	5,13	7,45	15,0	26,3	Temporary
23,0m	56621	58037	-0,64	0,03	9,32	1496	-0,04	0,04	26,6	27,0	5,15	7,47	15,0	26,3	Temporary
23,1m	56771	58190	-0,64	0,03	9,35	1496	-0,04	0,04	26,6	27,0	5,16	7,49	15,0	26,3	Temporary
23,2m	56921	58344	-0,64	0,03	9,39	1496	-0,04	0,04	26,6	27,0	5,17	7,51	15,0	26,3	Temporary
23,3m	57070	58497	-0,64	0,03	9,42	1496	-0,04	0,04	26,6	27,0	5,19	7,53	15,0	26,3	Temporary
23,4m	57220	58650	-0,64	0,03	9,46	1496	-0,04	0,04	26,6	27,0	5,20	7,55	15,0	26,3	Temporary
23,5m	57369	58804	-0,64	0,03	9,50	1496	-0,04	0,04	26,6	27,0	5,21	7,57	15,0	26,3	Temporary
23,6m	57519	58957	-0,63	0,03	9,53	1496	-0,04	0,04	26,6	27,0	5,23	7,59	15,0	26,3	Temporary
23,7m	57669	59110	-0,63	0,03	9,57	1496	-0,04	0,04	26,6	27,0	5,24	7,61	15,0	26,3	Temporary
23,8m	57818	59264	-0,63	0,03	9,61	1496	-0,04	0,04	26,5	26,9	5,25	7,63	15,0	26,2	Temporary
23,9m	57968	59417	-0,63	0,03	9,64	1496	-0,04	0,04	26,5	26,9	5,27	7,65	15,0	26,2	Temporary
24,0m	58117	59570	-0,63	0,03	9,68	1496	-0,04	0,04	26,5	26,9	5,28	7,66	15,0	26,2	Temporary
24,1m	58267	59724	-0,63	0,03	9,72	1496	-0,04	0,04	26,5	26,9	5,30	7,68	15,0	26,2	Temporary
24,2m	58417	59877	-0,63	0,03	9,75	1496	-0,04	0,04	26,5	26,9	5,31	7,70	15,0	26,2	Temporary
24,3m	58566	60030	-0,62	0,03	9,79	1496	-0,04	0,04	26,5	26,9	5,32	7,72	15,0	26,2	Temporary
24,4m	58716	60184	-0,62	0,03	9,83	1496	-0,04	0,04	26,5	26,9	5,34	7,74	15,0	26,2	Temporary
24,5m	58866	60337	-0,62	0,03	9,87	1496	-0,04	0,04	26,5	26,9	5,35	7,76	15,0	26,2	Temporary
24,6m	59015	60491	-0,62	0,03	9,90	1495	-0,04	0,04	26,5	26,9	5,36	7,78	15,0	26,2	Temporary
24,7m	59164	60644	-0,62	0,03	9,94	1491	-0,04	0,04	26,4	26,8	5,38	7,80	15,0	26,1	Temporary
24,8m	59313	60796	-0,62	0,03	9,98	1488	-0,04	0,04	26,3	26,7	5,39	7,82	15,0	26	Temporary
24,9m	59462	60949	-0,61	0,03	10,01	1484	-0,04	0,04	26,2	26,6	5,40	7,84	14,9	25,9	Temporary
25,0m	59610	61100	-0,61	0,03	10,05	1480	-0,04	0,04	26,1	26,6	5,42	7,86	14,9	25,8	Temporary

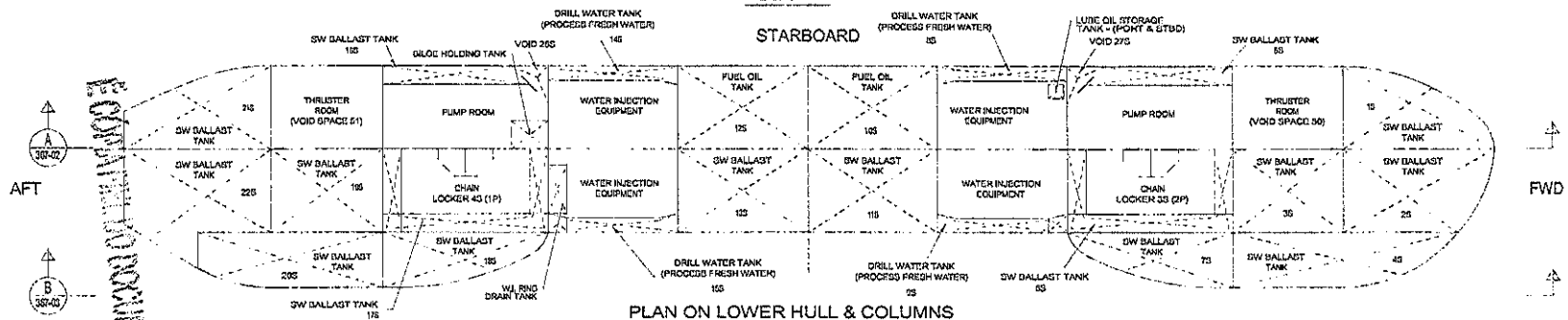
CÓPIA NÃO CONTROLADA
DOCUMENTO ORIGINAL



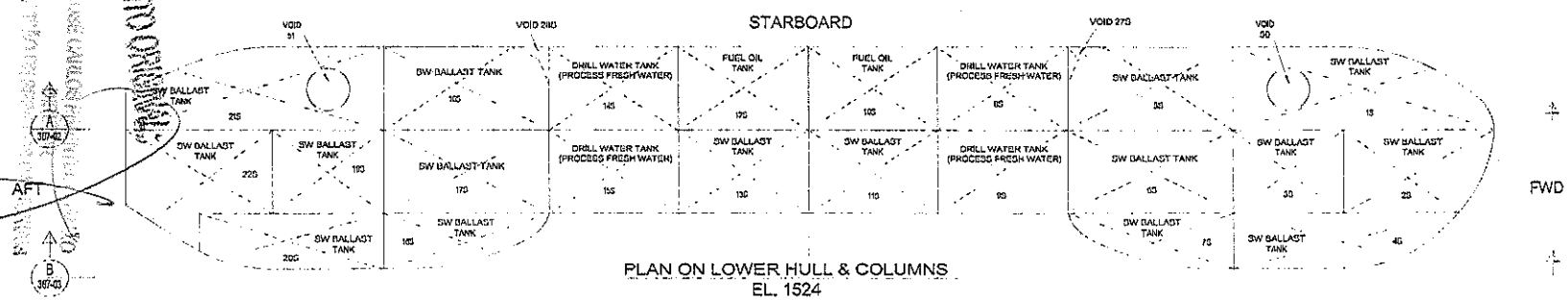
PLAN ON LOWER HULL & COLUMNS
EL. 12192



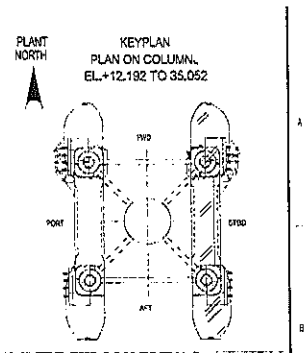
PLAN ON LOWER HULL & COLUMNS
EL. 9144

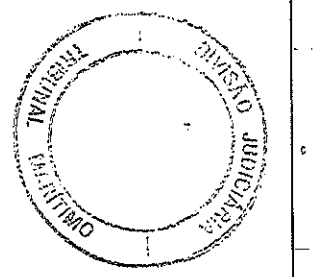


PLAN ON LOWER HULL & COLUMNS
EL. 2570



PLAN ON LOWER HULL & COLUMNS
EL. 1524





DE-3010.38-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES ELEV.SHT.2
DE-3010.38-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES ELEV.SHT.3
DE-3010.38-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-962-NBD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DE-3010.38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT. 1
DE-3010.38-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT. 2
DE-3010.38-1320-962-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO MAIN DECK
DE-3010.38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

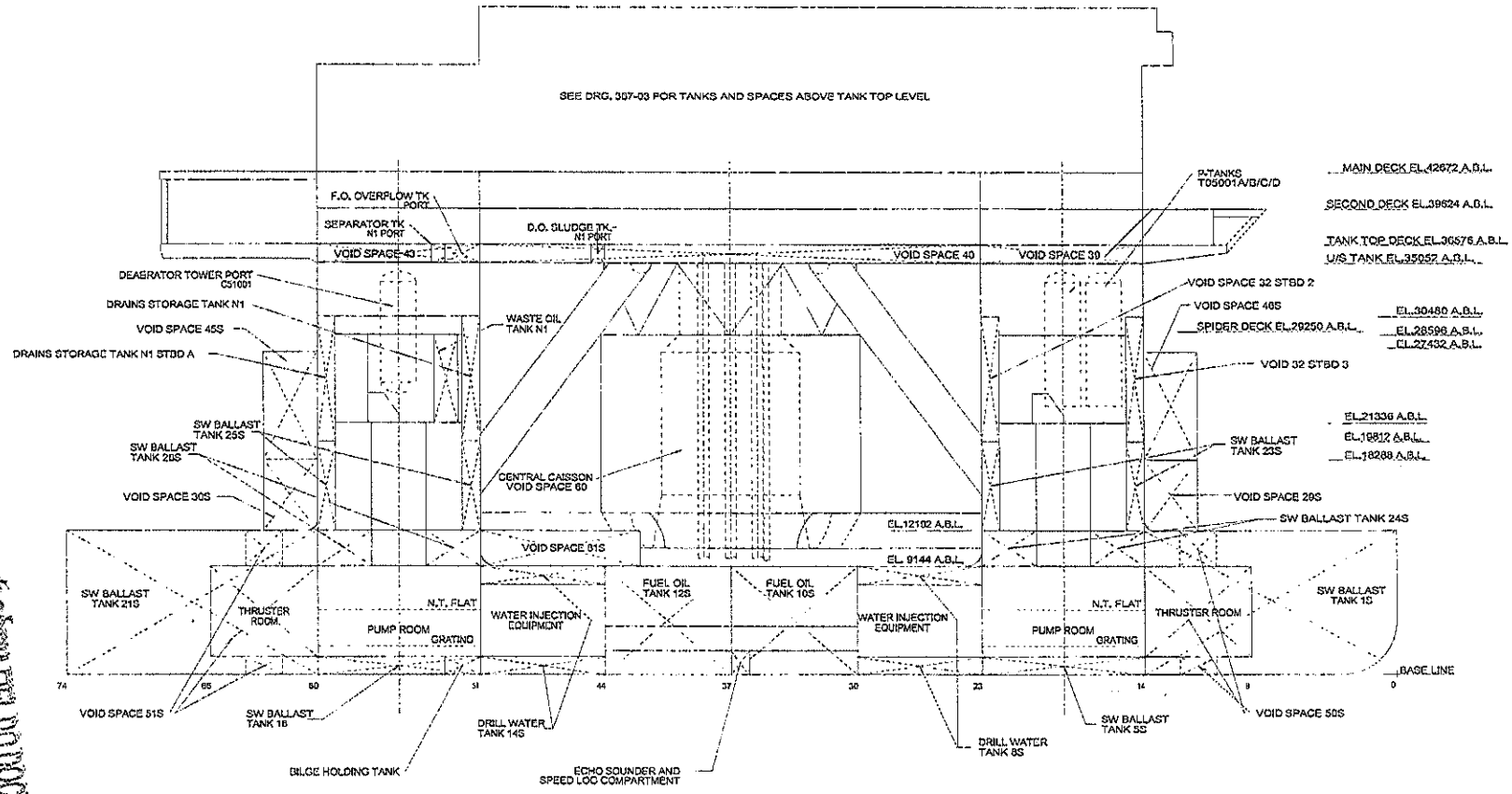
REV	ISSUE DATE	DESCRIPTION OF REVISION	DRWN BY	CHKD BY	APVD BY	APVD CLIENT
F	22/11/06	AS BUILT	BDE	MDE	MBR	
E	01.00.09	REVISED AFD	BDE	MDE	MDE	
D	29.01.09	AFD	BDE	MDE	AT	
C	12/12/07	REVISED AFD	BDE	MDE	AT	
B	29/10/07	AFD	BDE	MDE	AT	
A	11/9/07	IDC	RHS	MDE	AT	

PETROBRAS	P36-RONCADOR FIELD DEVELOPMENT CONTRACT No 1-7/15/2154
NOBLE DENTON	Petrominas / KBR

TITLE
P36 RONCADOR -
G.A. of PONTOON
TANKS & SPACES
PLANS SHT.1

DRAWN DATE: SC/LOCC 07
CHECKED: MDE/NOV 09
APPROVED: DJH/NOV 09
SCALE: 1:200(A1)

DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-01
REV: E

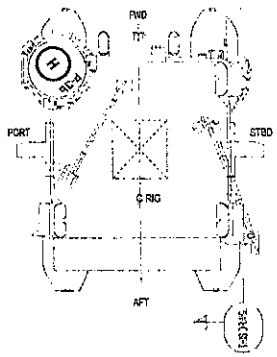


SECTION A-A
STARBOARD SIDE (PORT SIDE SIMILAR)

CERTIFIED DOCUMENT ORIGINAL

PLANT NORTH

KEY PLAN



CERTIFIED DOCUMENT ORIGINAL

DE-3010.38-1320-940-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-940-NBD-367-02	G.A. of PONTOON TANKS & SPACES ELEVATION SHT.2
DE-3010.38-1320-940-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-940-NBD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DE-3010.38-1320-940-NBD-367-06	TANK CAPACITY TABLE SHT. 1
DE-3010.38-1320-940-NBD-367-07	TANK CAPACITY TABLE SHT.2
DE-3010.38-1320-962-NBD-367-01	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-962-NBD-367-02	CAPACITY PLAN - TANK TOP TO U/S MAIN DECK
DE-3010.38-1320-962-NBD-367-03	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK
DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
E	22/1/08	AS BUILT	SDE	MBK	MBA	
D	01.04.00	REVISED A-A/C.	SDE	MBK	MBA	
C	05.03.99	A/C.	SDE	MBK	AT	
B	12.12.97	REVISED APD	SDE	MBK	AT	
A	26.10.97	APD	SDE	MBK	AT	
0	11.9.97	IDC	RHG	MBK	AT	

BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

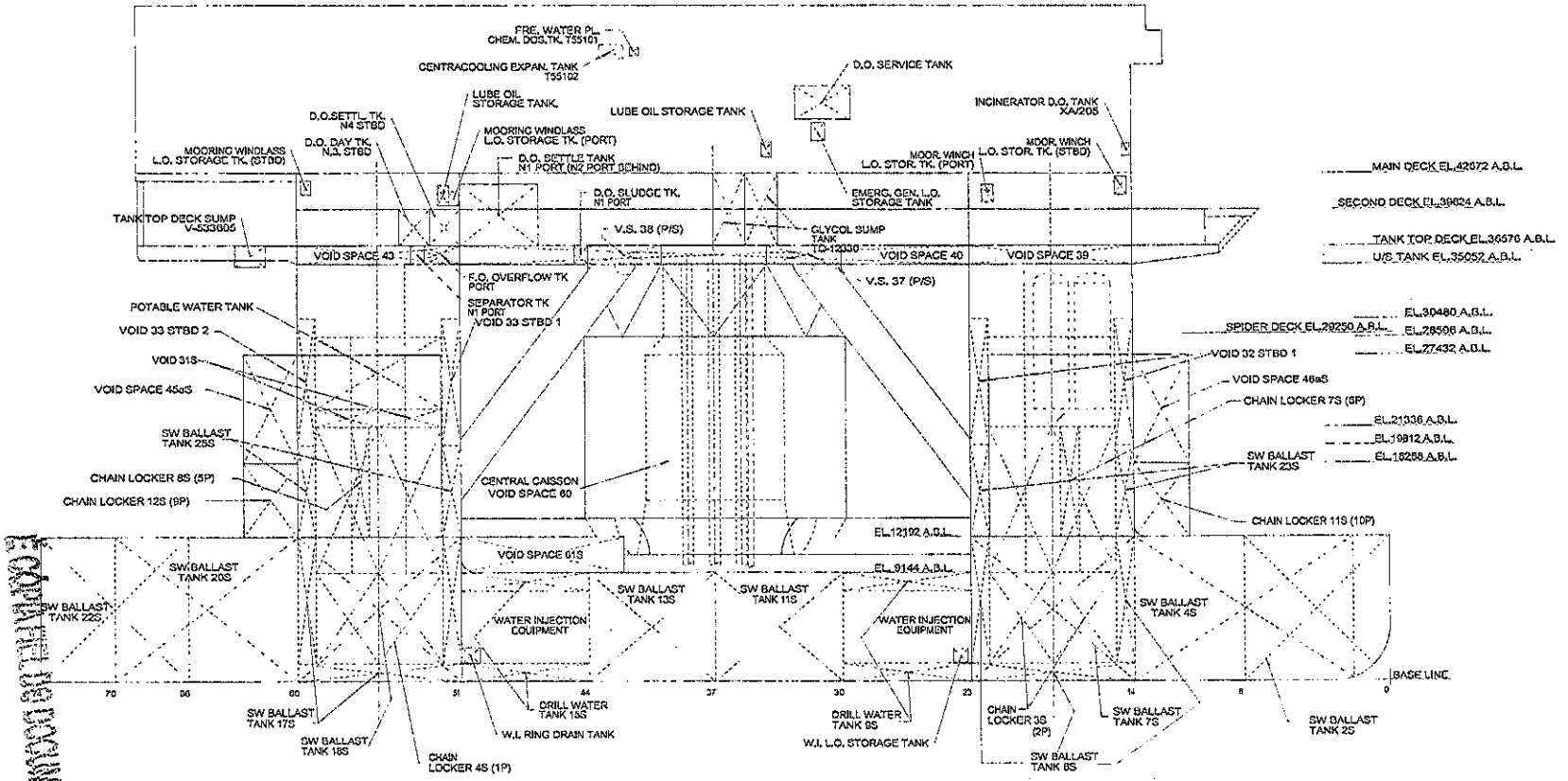
NOBLE DENTON | Petrobras | AMEC

TITLE

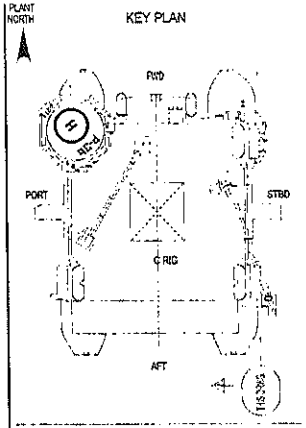
P36 RONCADOR
G.A. of PONTOON
TANKS & SPACES
ELEVATION SHT.2

DRAWN DATE: SCE/DEC.97
DES'D/CHK'D: MBE/NOV 99
APPROVED DATE: MBE/NOV 99
SCALE: 1:200 (A1)

DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-02
REV: E



ELEVATION B-B
STARBOARD SIDE (PORT SIDE MIRROR IMAGE)



DIVISÃO JURÍDICA MARÍTIMO

DE-3010.38-1320-962-NBD-367-01	G.A of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-962-NBD-367-02	G.A of PONTOON TANKS & SPACES ELEV SHT.2
DE-3010.38-1320-962-NBD-367-04	G.A of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-962-NBD-367-05	G.A of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DE-3010.38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT.1
DE-3010.38-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT.2
DE-3010.38-1320-962-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO 1915 MAIN DECK
DE-3010.38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK
DRAWING NUMBER	DRAWING TITLE

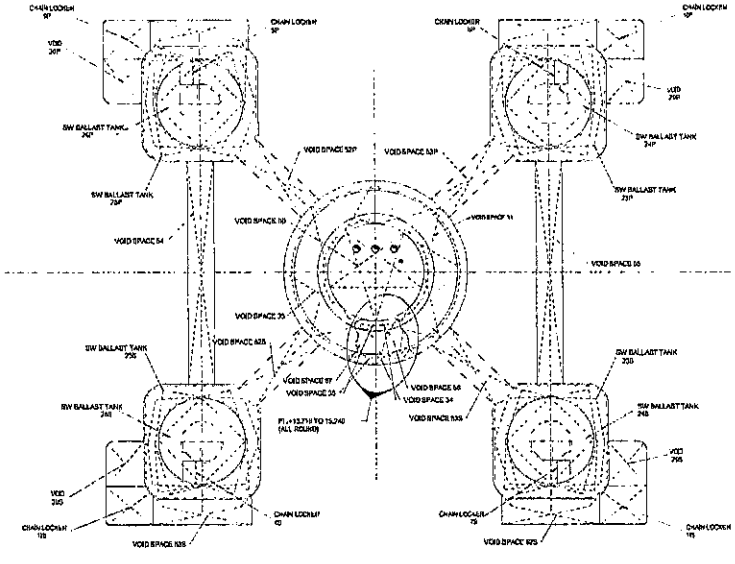
REFERENCE DRAWINGS

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B	01.09.99	REVISED AFC	SCE	MSC	MSC	
C	30.11.98	AFC	SCE	MSC	MSC	A1
B	19.11.98	REVISED AFD	SCE	MSC	MSC	A1
A	20.10.97	AFD	SCE	MSC	MSC	A1
0	11.9.97	IDC	RHS	MSC	MSC	A1

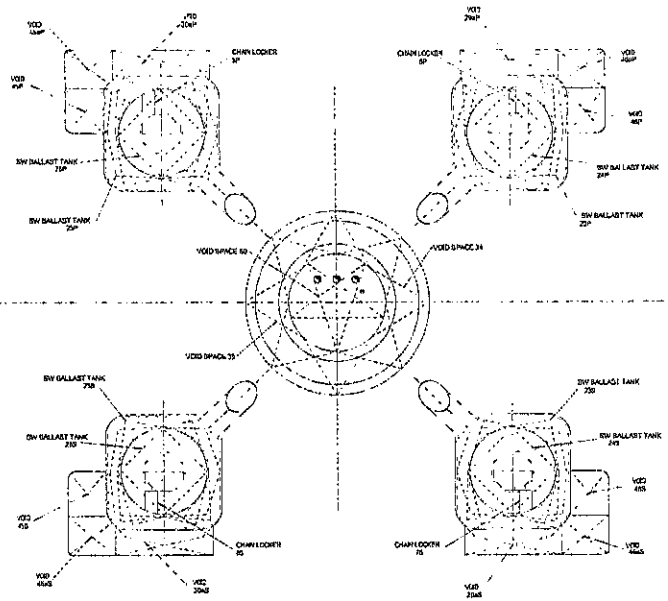
BRASOIL	P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150
NOBLE DENTON	Petrocoque ANDC

TITLE
P36 RONCADOR
G.A. of PONTOON TANKS & SPACES ELEVATION SHT.3

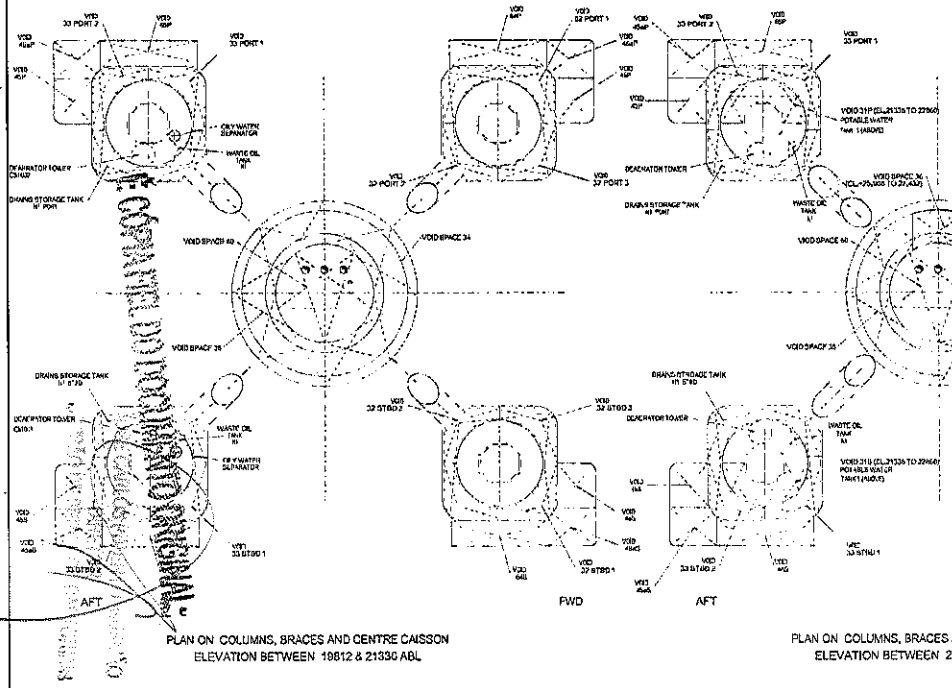
DRAWN DATE	SCE/OCT.97
CHECKED BY	MSC/NOV 99
APPROVED BY	MSC/NOV 99
SCALE	1:200 (A1)
DRAWING NUMBER	DE-3010.38-1320-962-NBD-367-03
REV	E



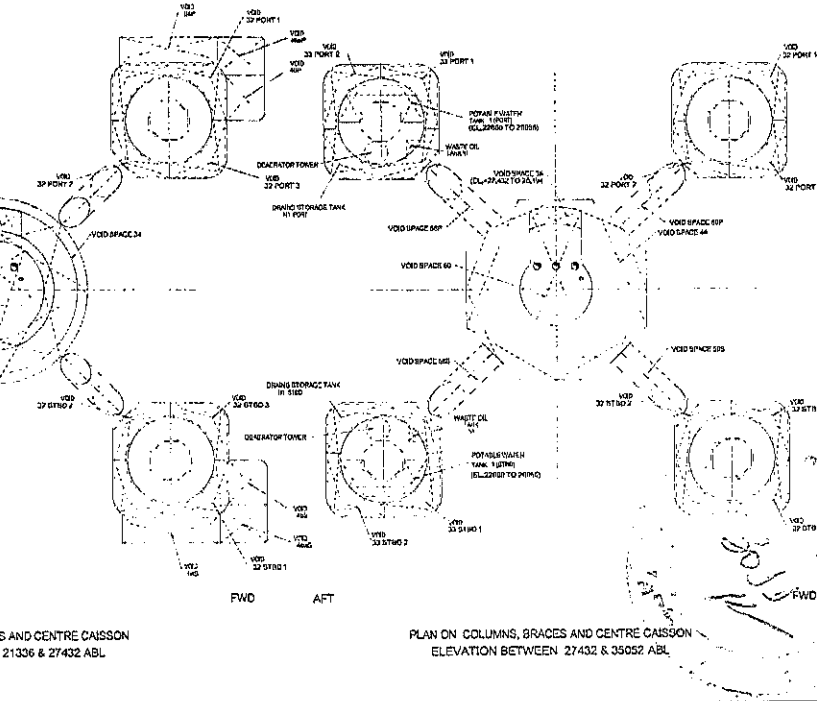
AFT — PLAN ON COLUMNS, BRACES AND CENTRE CAISSON ELEVATION BETWEEN 12192 & 18288 ABL — FWD



AFT — PLAN ON COLUMNS, BRACES AND CENTRE CAISSON ELEVATION BETWEEN 18288 & 19812 ABL — FWD



AFT — PLAN ON COLUMNS, BRACES AND CENTRE CAISSON ELEVATION BETWEEN 19812 & 21336 ABL — FWD

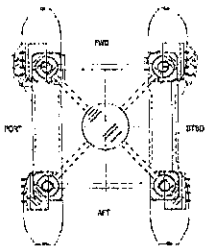


AFT — PLAN ON COLUMNS, BRACES AND CENTRE CAISSON ELEVATION BETWEEN 21336 & 27432 ABL — FWD

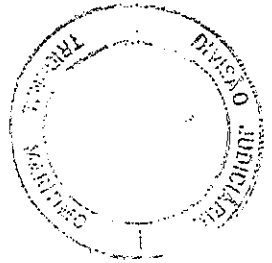
AFT — PLAN ON COLUMNS, BRACES AND CENTRE CAISSON ELEVATION BETWEEN 27432 & 35052 ABL — FWD

PLANT NORTH

KEYPLAN
PLAN ON COLUM'
EL.+12.192 TO 35.052



NOTES
1. FOR ELEVATIONS OF TANKS REFER TO SHEETS 2&3.



DE-3010.38-1320-962-NBD-366-01	G.A of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-962-NBD-366-02	G.A of PONTOON TANKS & SPACES S.P.V. SHT.2
DE-3010.38-1320-962-NBD-366-03	G.A of PONTOON TANKS & SPACES P.T.V. SHT.3
DE-3010.38-1320-962-NBD-366-04	G.A of PONTOON TANKS & SPACES CAISSON EL. SHT.4
DE-3010.38-1320-962-NBD-366-05	TANK CAPACITY TABLE SHT. 1
DE-3010.38-1320-962-NBD-366-07	TANK CAPACITY TABLE SHT. 2
DE-3010.38-1320-962-NBD-366-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-962-NBD-366-09	CAPACITY PLAN - TANK TOP TO MAIN DECK
DE-3010.38-1320-962-NBD-366-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-962-NBD-366-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-962-NBD-366-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-962-NBD-366-13	STORAGE AND LAYDOWN AREAS AT SECDECK DECK
DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWINGS

L	02.10.09	AS BUILT		SCR	MSC	AT
B	01.09.09	IMPLEMENTED AFC		SCF	MSC	AT
C	05.03.09	AFC		SCC	MSC	AT
B	10.12.07	REVISED AFD		SCC	MSC	AT
A	20.10.07	AFD		SCE	MSC	AT
0	11.10.07	IDC		RHS	MSC	AT
REV	REAL DATE	DESCRIPTION OF REVISION		DRAWN BY	CHKD BY	APPD BY

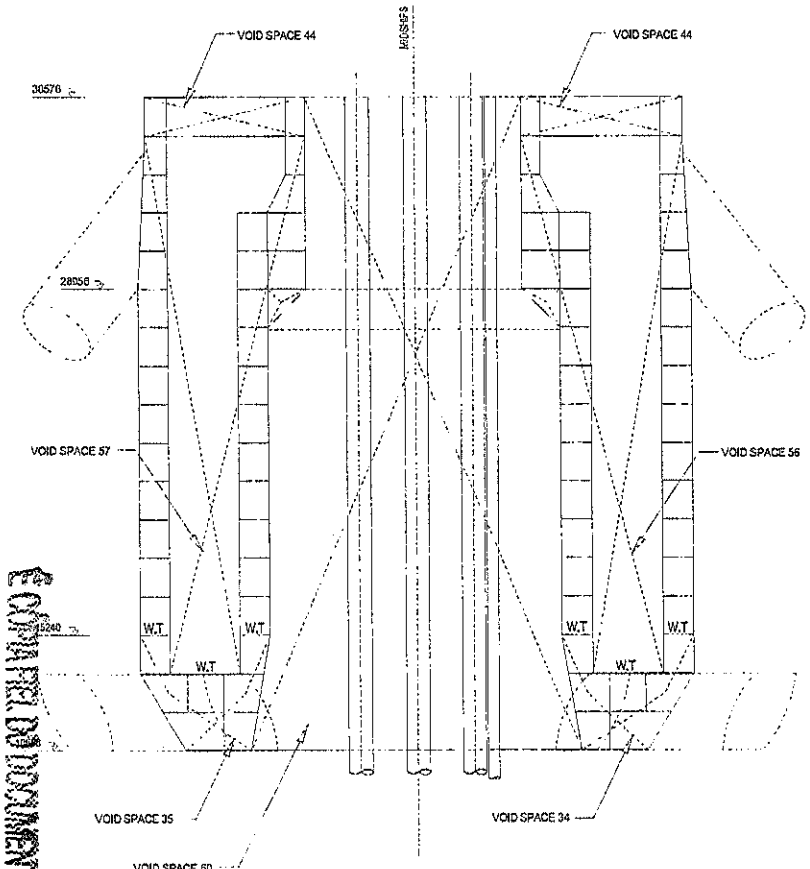
BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2156

NOBLE DENTON | Petrobras | AMEC

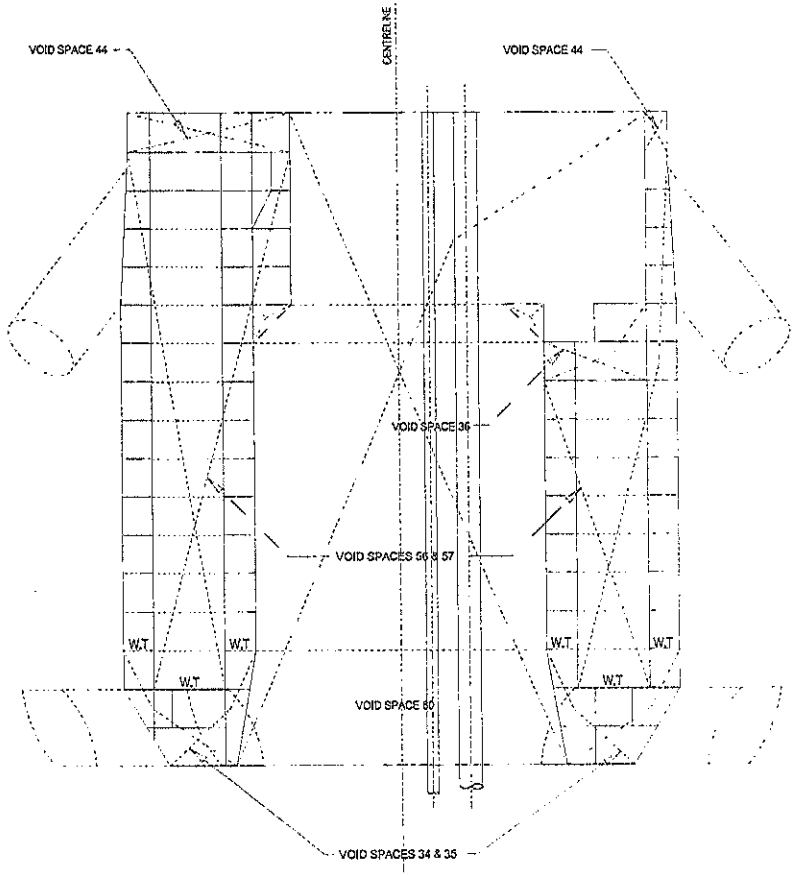
TITLE
P36 RONCADOR
G.A. of PONTOON
TANKS & SPACES
COLUMN PLANS SHT.4

DRAWN BY: SCC/DS/C.97
CHECKED BY: MSE/02 OCT.00
APPROVED BY: AT/02 OCT.00
SCALE: N.T.S.

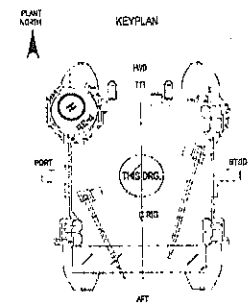
DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-04
REV: E

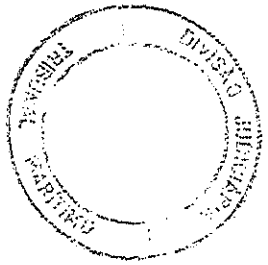


CENTRAL CAISSON LKG. TO PORT



CENTRAL CAISSON LKG. AFT





DE-3010,03A-1320-962-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHEET
DE-3010,03A-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES ELEV. SHEET
DE-3010,03A-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES ELEV. SHEET
DE-3010,03A-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010,38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT. 1
DE-3010,38-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT. 2
DE-3010,38-1320-962-NBD-367-05	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010,38-1320-962-NBD-367-08	CAPACITY PLAN - TANK TOP TO US MAIN DECK
DE-3010,38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010,38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010,38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010,38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRWN BY	CHKD BY	APPD BY	APPD CONTR
E	02.10.09	AS BUILT	SCC	MSE	AT	
D	01.09.99	REVISED AFC	SCC	MSE	AT	
C	29.01.98	A.F.C.	SCC	MSE	AT	
B	02.12.97	AFD	SCC	MSE	AT	
A	28.11.97	AFD	SCC	DHL	AT	
0	29.10.97	IDC	SCC	MSE	AT	

BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

NOBLE DENTON | Petrobras | AMEC

TITLE: CENTRAL CAISSON CAPACITY TANK LAYOUT

DRAWN/DATE: SCC/DEC. 97
CHECK/DATE: MSE/OCT. 98
APPROVED/DATE: AT/OCT. 98
SCALE: 1:100 (A1)

DRAWING NUMBER: DE-3010,38-1320-962-NBD-367-05 | REV: E

CONTROLLED DOCUMENT

Potable Water Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Pot Water Tk	1P	104.0	104.0	1.000	84.58	-29.99	25.00	55 & 56
Pot Water Tk	1S	104.0	104.0	1.000	84.58	29.99	25.90	55 & 56
Pot Water Day Tk		15.2	15.2	1.000	78.07	4.08	38.10	51 & 52
Potable Water Tanks		403.1	403.1		84.06	0.19	26.37	

Drill Water Tanks (Process FW)	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Drill Water Tanks	8P	276.5	276.5	1.000	40.25	-23.31	4.41	26 & 27
Drill Water Tanks	8S	276.5	276.5	1.000	40.25	23.31	4.41	26 & 27
Drill Water Tanks	9P	248.7	248.7	1.000	40.63	-31.35	4.38	26 & 27
Drill Water Tanks	9S	248.7	248.7	1.000	40.63	31.35	4.38	26 & 27
Drill Water Tanks	14P	272.3	272.3	1.000	72.39	-24.38	4.56	47 & 48
Drill Water Tanks	14S	272.3	272.3	1.000	72.39	24.38	4.56	47 & 48
Drill Water Tanks	15P	260.3	260.3	1.000	72.34	-30.45	4.62	47 & 48
Drill Water Tanks	15S	260.3	260.3	1.000	72.34	30.45	4.62	47 & 48
Drill Water Tanks (Process FW)		2115.5	2115.5		56.49	0.00	4.49	

Fuel Oil	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
FO Tank	10P	586.0	611.3	0.960	51.05	-23.91	4.67	33 & 34
FO Tank	10S	586.0	611.3	0.960	51.05	23.91	4.67	33 & 34
FO Tank	12P	590.1	614.7	0.960	91.72	-23.86	4.64	40 & 41
FO Tank	12S	590.1	614.7	0.960	91.72	23.92	4.64	40 & 41
FO Overflow	P	16.4	17.1	0.960	76.94	-17.79	35.81	51 & 52
FO Overflow	S	15.1	15.8	0.960	76.87	22.85	35.81	51 & 52
Fuel Oil		2385.4	2452.0		56.70	0.04	5.06	

Diesel Oils	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
DO Sludge	N1P	3.6	4.1	0.870	87.01	-15.02	35.01	44 & 45
DO Sludge	N1S	3.6	4.1	0.870	78.58	10.10	35.81	51 & 52
DO Settle	N1P	105.5	121.2	0.870	74.52	-13.00	39.39	48 & 49
DO Day Tk	N2P	110.7	127.2	0.870	74.66	-17.44	39.37	48 & 49
DO Day Tk	N2S	73.5	84.5	0.870	82.01	15.62	38.10	53 & 54
DO Settle	N4S	73.5	84.5	0.870	78.15	15.62	38.10	51 & 52
DO Service		11.2	12.9	0.870	46.01	-21.15	47.01	31 & 32
Diesel Oils		381.5	341.2		78.08	-3.55	39.05	

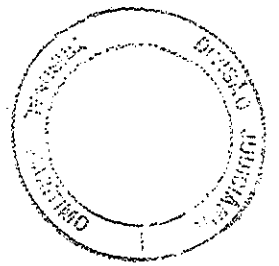
Lub Oils	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Drains Storage Tank Port	N1P	400.3	451.4	0.900	84.85	-22.04	25.23	55 & 56
Drains Storage Tank Stbd	N1S	400.3	451.4	0.900	84.85	22.04	25.23	55 & 56
Waste Oil	N1P	19.2	19.2	1.000	80.72	-24.55	25.15	52 & 53
Waste Oil	N1S	19.2	19.2	1.000	80.72	24.65	25.15	52 & 53
Air Compressors LO Storage	T65101	0.8	0.9	0.900	78.47	-1.35	40.72	51 & 52
Mooring Winch LO Storage	T65105	0.3	0.3	0.900	78.17	-30.43	40.77	51 & 52
Mooring Winch LO Storage	T65106	0.3	0.3	0.900	34.65	-30.07	40.87	22 & 23
Mooring Winch LO Storage	T65107	0.3	0.3	0.900	23.33	28.10	40.87	15 & 16
Mooring Winch LO Storage	T65108	0.3	0.3	0.900	81.04	30.07	40.90	59 & 60
Em. Gen. LO Storage	T65109	0.5	0.6	0.900	46.60	-22.17	45.00	31 & 32
WI Room LO Storage	T65110	0.8	0.9	0.900	35.87	-22.20	3.43	23 & 24
WI Room LO Storage	T65111	0.8	0.9	0.900	35.87	22.20	3.44	23 & 24
Turbine Lube Oil Console	UQ-122306	15.0	16.7	0.900	89.67	24.55	49.23	58 & 59
Turbine Lube Oil Console	UQ-122305	15.0	16.7	0.900	89.66	9.55	49.24	58 & 59
Turbine Lube Oil Console	UQ-122304	15.0	16.7	0.900	89.71	-5.45	49.25	58 & 59
Lub Oils		900.1	995.7		84.77	0.40	26.43	

Miscellaneous Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Bilge Holding Tank		5.0	5.27	1.000	78.49	-26.31	0.76	51 & 52
Bilge Holding Tank		5.3	5.27	1.000	78.49	26.31	0.76	51 & 52
W.I.L ring Drain Tank		2.8	2.80	1.000	77.13	-30.77	1.22	50 & 51
W.I.L ring Drain Tank		2.8	2.80	1.000	77.13	30.77	1.22	50 & 51
Deaerator Tower -Port	GC-51001	38.0	37.96	1.000	65.08	-23.73	27.60	55 & 56
Deaerator Tower -Starb	GC-52001	38.0	37.96	1.000	65.08	23.73	27.60	55 & 56
Auxiliary Generator DO	GC-514001	1.0	1.15	0.870	84.39	-12.50	53.00	35 & 36
Aft Column Separator Tank	N1P	13.8	13.80	1.000	79.72	-26.29	35.10	52 & 53
Aft Column Separator Tank	N1S	13.8	13.80	1.000	79.72	26.29	35.10	52 & 53
Miscellaneous Tanks		120.7	120.8		82.65	-0.10	25.96	

Non Structural Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Fwd clmn p-tk	T05001A	109.9	83.5	1.316	25.00	26.70	27.00	16 & 17
Fwd clmn p-tk	T05001B	109.9	83.5	1.316	25.15	24.23	27.00	18 & 19
Fwd clmn p-tk	T05001A	109.9	83.5	1.316	25.15	-24.23	27.00	18 & 19
Fwd clmn p-tk	T05001B	109.9	83.5	1.316	25.00	-26.70	27.00	16 & 17
Helifuel Retual	A66001	7.0	7.0	1.000	34.55	-12.93	43.02	22 & 23
Helifuel Disp	A66002	0.1	0.1	1.000	25.01	-19.20	45.10	17 & 18
Incinerator DO Day Tank	T60305	0.2	0.2	0.870	21.66	26.76	43.04	14 & 15
FW Chem Dosing Tank FW	T55101	2.0	2.0	1.000	93.02	-5.30	52.01	41 & 42
Cooling Expansion Tank	T55102	0.5	0.5	1.000	84.97	-6.20	52.01	42 & 43
Oily Water Separators	V-66201/V-66202	1.4	1.6	0.900	80.77	0.00	29.80	52 & 53
Glycol Sump Tank	TQ-123301	20.1	18.8	1.069	55.23	21.53	37.08	36 & 37
Tank Top Sump Tank	V-533605	16.0	16.0	1.000	79.22	6.44	40.47	50 & 51
Non Structural Tanks		487.8	380.0		29.85	0.87	26.46	

Process Content	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Oil Separation - Train A	UQ-122301	468.5	550.6	0.850	92.29	-28.51	47.27	60 & 61
Oil Separation - Train B	UQ-122302	467.0	550.5	0.850	92.28	-18.53	47.34	60 & 61
Oil Separation - Heating	UQ-122303	78.8	92.7	0.850	77.27	-20.01	47.49	50 & 51
Production Caisson	TQ-533601	42.6	52.2	0.900	64.74	-16.71	10.81	42 & 43
Turbine Cooling Water	UQ-122306	5.6	5.6	1.000	89.87	24.55	49.23	58 & 59
Turbine Cooling Water	UQ-122305	5.6	5.6	1.000	89.88	9.55	49.24	58 & 59
Turbine Cooling Water	UQ-122304	5.6	5.6	1.000	89.71	-5.45	49.25	58 & 59
Gas/Cond. Chemical Injection Package	UQ-682503	38.5	42.8	0.900	58.48	13.14	44.98	39 & 39
Oil Chemical Injection -Skid 2	UQ-682501-02	28.4	31.5	0.900	61.70	13.04	37.74	40 & 41
Sea Water Chemical Injection	UQ-682502	19.2	21.3	0.900	54.46	18.88	37.36	35 & 36
Oil Chemical Injection -Skid 1	UQ-682501-01	16.5	18.3	0.900	50.88	17.66	37.92	33 & 34
Chemical Injtn Package -Water Inj	A42001	1.7	1.9	0.900	61.55	17.80	38.33	40 & 41
Chemical Injection Package -Prod	A42002	1.5	1.7	0.900	55.56	13.40	38.33	36 & 37
Heating Med Exp Vessel	V-512501	19.0	20.3	0.935	48.12	2.233	63.79	31 & 32
Cooling Med Exp Vessel	V-512401	8.8	8.8	1.000	48.10	-3.216	63.78	31 & 32
Skim Pile Matrix Seperator	V-66212	10.8	11.0	0.000	59.51	-13.30	43.92	39 & 40
Glycol Regeneration Package	UQ-123302	13.4	12.4	1.080	57.13	16.93	45.38	37 & 38
TEG Contactor Towers	UQ-123301	8.3	7.7	1.080	57.44	12.87	48.38	37 & 38
Safety Gas KO Drum Package	V-122301	14.5	14.9	0.975	62.86	30.50	46.96	41 & 42
Drains Treatment Package	A45001	14.4	14.4	1.000	97.99	14.72	39.08	64 & 65
Fuel Gas Treatment Package	UQ-513501	0.4	0.4	1.000	97.93	23.08	38.55	64 & 65
LP KO Drum Package + Pumps	UQ-541202	7.9	9.6	0.820	63.87	-16.36	44.21	41 & 42
Booster Comp Process Pkg	A30003	5.5	5.5	1.000	88.04	22.68	40.16	37 & 38
Caisson Pumps Antifouling Package	UQ-512101	8.2	8.0	1.025	32.08	15.20	44.42	21 & 22
Seawater Pumps and Piping	D-11102/V0/C	59.0	58.6	1.025	90.39	5.25	20.00	37 & 38
Water Injection System -inc Piping	UQ-125101	49.3	48.1	1.025	60.00	0.00	30.20	39 & 40
Process Piping & Valves		104.4	121.0	0.860	55.40	8.84	46.92	36 & 37
HP Flare KO Drum Skid	A42001	8.4	10.2	0.820	59.66	-21.60	44.79	39 & 40
Cooling Medium Package	UQ-512401-01	26.6	26.6	1.000	26.81	17.04	48.23	17 & 18
Heating Medium Package & Piping	UQ-512501-01	43.3	44.9	0.965	31.81	23.00	46.58	20 & 21
Process Gas Module C	UQ-122309	8.0	12.3	0.650	79.28	31.85	48.66	52 & 53
Process Gas Module B	UQ-122307	8.0	12.3	0.650	79.28	16.85	48.66	52 & 53
Process Gas Module A	UQ-122305	8.0	12.3	0.650	79.28	2.06	48.66	52 & 53
Industrial Water System Piping		49.1	49.1	1.000	56.39	0.00	43.00	37 & 38
Process Content		1660.8			79.05	-11.07	40.74	

SW Ballast Tanks	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
SW Ballast	1P	908.9	886.7	1.025	9.50	-24.47	6.77	6 & 7
SW Ballast	1S	908.9	886.7	1.025	9.50	24.47	6.77	6 & 7
SW Ballast	2P	899.5	877.5	1.025	6.78	-30.71	6.21	4 & 5
SW Ballast	2S	899.5	877.5	1.025	6.78	30.71	6.21	4 & 5
SW Ballast	3P	746.9	728.7	1.025	16.71	-30.58	6.16	10 & 11
SW Ballast	3S	746.9	728.7	1.025	16.71	30.58	6.16	10 & 11
SW Ballast	4P	816.2	796.3	1.025	13.73	-30.66	6.20	9 & 10
SW Ballast	4S	816.2	796.3	1.025	13.73	30.60	6.20	9 & 10
SW Ballast	5P	263.0	256.6	1.025	27.71	-22.62	2.98	18 & 19
SW Ballast	5S	263.0	256.6	1.025	27.71	22.62	2.98	18 & 19
SW Ballast	6P	537.0	523.9	1.025	28.19	-31.74	5.27	18 & 19
SW Ballast	6S	537.0	523.9	1.025	28.19	31.74	5.27	18 & 19
SW Ballast	7P	569.1	555.2	1.025	26.04	-30.18	6.11	17 & 18
SW Ballast	7S	569.1	555.2	1.025	26.04	30.18	6.11	17 & 18
SW Ballast	11P	660.8	644.7	1.025	51.06	-30.81	4.57	33 & 34
SW Ballast	11S	660.8	644.7	1.025	51.06	30.81	4.57	33 & 34
SW Ballast	12P	660.8	644.7	1.025	91.72	-30.81	4.57	40 & 41
SW Ballast	12S	660.8	644.7	1.025	91.72	30.81	4.57	40 & 41
SW Ballast	13P	285.9	249.7	1.025	85.17	-22.72	3.04	55 & 56
SW Ballast	13S	255.0	249.7	1.025	85.17	22.72	3.04	55 & 56
SW Ballast	17P	537.0	523.9	1.025	84.58	-31.74	5.27	56 & 56
SW Ballast	17S	537.0	523.9	1.025	84.58	31.74	5.27	56 & 56
SW Ballast	18P	569.0	555.2	1.025	85.84	-30.18	6.11	56 & 57
SW Ballast	18S	569.0	555.2	1.025	85.84	30.18	6.11	56 & 57
SW Ballast	19P	747.0	728.8	1.025	98.07	-30.88	6.16	63 & 64
SW Ballast	19S	747.0	728.8	1.025	98.07	30.88	6.16	63 & 64
SW Ballast	20P	707.4	766.2	1.025	98.86	-30.37	6.16	64 & 65
SW Ballast	20S	707.4	766.2	1.025	98.86	30.37	6.16	64 & 65
SW Ballast	21P	987.8	963.7	1.025	103.87	-24.46	6.68	66 & 69
SW Ballast	21S	987.8	963.7	1.025	103.87	24.46	6.68	66 & 69
SW Ballast	22P	1094.0	1067.3	1.025	106.75	-31.15	6.13	70 & 71
SW Ballast	22S	1094.0	1067.3	1.025	106.75	31.15	6.13	70 & 71
SW Ballast	23P	682.3	865.8	1.025	20.02	-27.55	16.00	18 & 19
SW Ballast	23S	682.3	865.8	1.025	20.02	27.55	16.00	18 & 19
SW Ballast	24P	1005.3	980.8	1.025	20.00	-26.33	14.37	18 & 19
SW Ballast	24S	1005.3	980.8	1.025	20.00	26.33	14.37	18 & 19
SW Ballast	25P	682.3	665.6	1.025	84.76	-27.56	16.00	55 & 56
SW Ballast	25S	682.3	665.6	1.025	84.76	27.55	16.00	56 & 56
SW Ballast	26P	1005.3	980.8	1.025	84.77	-26.33	14.37	55 & 56
SW Ballast	26S	1005.3	980.8	1.025	84.77	26.33	14.37	56 & 56
Chain Locker	1P	372.2	363.1	1.025	84.56	-30.41	5.29	56 & 56
Chain Locker	2P	372.2	363.1	1.025	28.2	-30.41	5.29	18 & 19
Chain Locker	3P	372.2	363.1	1.025	28.2	30.41	5.29	18 & 19
Chain Locker	4S	372.2	363.1	1.025	84.56	30.41	5.29	55 & 56
Chain Locker	5P	53.5	52.2	1.025	86.47	-31.12	16.76	56 & 57
Chain Locker	6P	53.5	52.2	1.025	28.31	31.12	16.76	17 & 18
Chain Locker	7S	53.5	52.2	1.025	28.31	31.12	16.76	17 & 18
Chain Locker	8S	53.5	52.2	1.025	86.47	31.12	16.76	56 & 57
SW Ballast Total		30537.8			57.24	0.00	7.91	



DE-3010.36-1320-962-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT 1
DE-3010.36-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES CLTY SHT 2
DE-3010.36-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES CLTY SHT 3
DE-3010.36-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.36-1320-962-NBD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON TK SHT 5
DE-3010.36-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT 2
DE-3010.36-1320-962-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.36-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO 1ST MAIN DECK
DE-3010.36-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.36-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.36-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.36-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
E	02.10.09	AS BUILT	SCK	VSC	AT	
D	01.09.09	REVISED AFC	SCK	VSC	AT	
C	06.03.09	AFC	SCK	VSC	AT	
B	10.12.07	REVISED AFD	SCC	VSC	AT	
A	20.10.07	AFD	SCC	VSC	AT	
0	11.9.07	IDC	RHS	VSC	AT	

BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

NOBLE DENTON | Petrobras | AMEC

DRAWN/DATE SCC/DEC.07 | DES/DATE MSC/OCT.07 | APPR/DATE AT/OCT.07 | SCALE N.T.S.

P36 RONCADOR TANK CAPACITY TABLES

DRAWING NUMBER DE-3010.36-1320-962-NBD-367-06 REV E

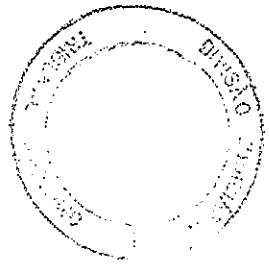
Helicopter & Laydown Areas	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Helicopter	HD	24.0	523.1		21.10	-35.60	48.00	13 & 14
Tote Tank Laydown	LD-01	76.0	57.3	13.0	37.14	10.07	43.00	24 & 25
Misc Laydown 1	LD-02	75.0	56.6	13.0	36.56	-3.52	43.00	25 & 26
Misc Laydown 2	LD-03	53.3	40.2	13.0	39.27	-11.28	43.00	25 & 26
Compression A Laydown	LD-04	59.1	44.6	13.0	95.42	0.43	43.00	62 & 63
Compression B Laydown	LD-05	56.5	42.7	13.0	95.44	15.43	43.00	62 & 63
Compression C Laydown	LD-06	63.8	48.1	13.0	95.44	30.80	43.00	62 & 63
Turbine A Laydown	LD-07	19.0	15.0	13.0	73.34	-5.46	43.00	48 & 49
Turbine B Laydown	LD-08	19.0	15.0	13.0	73.34	9.54	43.00	48 & 49
Turbine C Laydown	LD-09	19.0	15.0	13.0	73.34	24.54	43.00	48 & 49
Pig Launcher Laydown	LD-10	67.4	50.0	13.0	106.05	-19.00	38.56	69 & 70
Multipurpose Court	LD-11	212.0	160.0	13.0	30.37	1.28	43.00	19 & 20
Helicopter & Laydown Areas		747.0			58.12	1.56	42.61	38 & 39

Crew & Stores @ Main Deck	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Paint Locker	MD-01	27.6	21.0	13	65.60	8.51	43.87	43 & 44
Deck Locker	MD-02	27.6	21.0	13	48.89	8.51	43.87	32 & 33
Marine Equipment Storage	MD-03	45.0	34.7	13	48.60	8.51	43.87	32 & 33
Crew & Stores @ Main Deck		101.8	76.7		53.55	8.51	43.87	35 & 36

Crew & Stores @ Second Deck	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Weld Shop	SD-01	124.7	94.1	13.0	84.56	-24.00	40.62	55 & 56
Production Warehouse	SD-02	51.6	39.0	13.0	86.00	24.00	41.12	56 & 59
Warehouse	SD-03	149.9	113.1	13.0	85.73	-15.62	41.12	55 & 57
Open Store	SD-04	103.4	81.8	13.0	69.43	+0.23	41.02	45 & 46
Dry Store 1	SD-05	59.8	45.1	13.0	40.21	8.48	40.52	26 & 27
Dry Store 2	SD-06	45.9	34.6	13.0	37.21	15.03	40.52	24 & 25
Chilling Room / Freezer	SD-07	61.8	46.7	13.0	42.47	15.03	41.02	27 & 28
Crew & Effects		30.0			45.72	0.00	41.82	30 & 31
Crew & Stores @ 2nd Deck		632.1	454.4		68.98	-3.15	40.93	45 & 46

Crew & Stores @ Tank Top	ID	Max Wt (M.T)	Area (m2)	Max Load (kN/m2)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
Pump Store Aft	TT-01	8.0	6.1	13.0	63.51	0.85	37.88	41 & 42
Pump Store Fwd	TT-02	8.0	6.1	13.0	49.26	0.85	37.88	32 & 33
Mech Store 1	TT-03	42.5	32.1	13.0	88.40	-31.10	37.88	58 & 59
Mech Store 2	TT-04	31.0	23.4	13.0	81.40	-32.18	37.88	53 & 54
Mech Workshop	TT-05	99.8	75.1	13.0	85.97	-23.86	37.58	56 & 57
Production Warehouse	TT-06	51.4	38.8	13.0	88.51	24.15	37.58	58 & 59
Production Warehouse	TT-07	82.3	30.5	13.0	80.51	24.00	37.58	52 & 53
Store	TT-08	81.7	61.5	13.0	62.10	31.44	37.88	54 & 55
Store	TT-09	60.3	45.5	13.0	69.19	-5.33	37.88	45 & 46
Electrical Workshop	TT-10	32.5	24.6	13.0	75.27	-8.16	37.78	49 & 50
Electrical Store	TT-11	43.5	32.8	13.0	75.27	-1.02	37.78	49 & 50
Hydraulic Workshop	TT-12	31.1	23.5	13.0	75.37	4.83	37.66	49 & 50
Central Caisson Laydown Area	TT-13	5.5	0.0	0.0	61.86	-2.75	37.56	40 & 41
Starboard Forward Laydown Area	TT-14	10.8	21.8	0.0	37.87	22.62	37.56	24 & 25
Instrumentation Workshop	TT-15	61.3	46.3	13.0	73.15	23.30	37.56	48 & 49
Crew & Stores @ Tank Top		625.6	462.6		76.11	3.04	37.72	51 & 52

Void Spaces	ID	Max Wt (M.T)	Volume (m3)	Density (MT/m3)	LCG (m)	TCG (m)	VCG (m)	Between Frame No.s
VOID SPACE	N.27P	34.7	33.9	1.025	33.53	-21.3	5.33	22 & 23
VOID SPACE	N.27S	34.7	33.9	1.025	33.53	21.3	5.33	22 & 23
VOID SPACE	N.28P	34.7	33.9	1.025	79.25	-21.3	5.33	52 & 53
VOID SPACE	N.28S	34.7	33.9	1.025	79.25	21.3	5.33	52 & 53
VOID SPACE	N.29P	142.1	138.7	1.025	19.06	-30.1	15.24	12 & 13
VOID SPACE	N.29S	142.1	138.7	1.025	19.06	30.1	15.24	12 & 13
VOID SPACE	N.29aP	166.6	162.7	1.025	28.2	-35.7	18.36	18 & 19
VOID SPACE	N.29aS	166.6	162.7	1.025	28.2	35.7	18.36	18 & 19
VOID SPACE	N.30P	142.1	138.7	1.025	93.72	-30.1	15.24	61 & 62
VOID SPACE	N.30S	142.1	138.7	1.025	93.72	30.1	15.24	61 & 62
VOID SPACE	N.30aP	166.6	162.7	1.025	84.56	-35.7	18.36	55 & 56
VOID SPACE	N.30aS	166.6	162.7	1.025	84.56	35.7	18.36	55 & 56
VOID SPACE	N.31P	48.8	47.6	1.025	84.56	-30.0	22.10	55 & 56
VOID SPACE	N.31S	48.8	47.6	1.025	84.56	30.0	22.10	55 & 56
VOID SPACE	N.32P1	238.6	233.0	1.025	23.75	-16.8	25.15	15 & 16
VOID SPACE	N.32S1	238.6	233.0	1.025	23.75	16.8	25.15	15 & 16
VOID SPACE	N.32P2	230.9	234.0	1.025	32.47	-23.1	25.30	21 & 22
VOID SPACE	N.32S2	230.9	234.0	1.025	32.47	23.1	25.30	21 & 22
VOID SPACE	N.32P3	477.7	466.0	1.025	28.19	-26.1	25.15	18 & 19
VOID SPACE	N.32S3	477.7	466.0	1.025	28.19	26.1	25.15	18 & 19
VOID SPACE	N.33P1	252.7	246.5	1.025	80.20	-31.4	25.15	52 & 53
VOID SPACE	N.33S1	252.7	246.5	1.025	80.20	31.4	25.15	52 & 53
VOID SPACE	N.33P2	252.7	246.5	1.025	86.86	-31.4	25.15	58 & 59
VOID SPACE	N.33S2	252.7	246.5	1.025	86.86	31.4	25.15	58 & 59
VOID SPACE	N.34	361.8	353.0	1.025	50.56	0.0	12.95	33 & 34
VOID SPACE	N.35	361.8	353.0	1.025	62.22	0.0	12.95	40 & 41
VOID SPACE	N.36	59.5	58.0	1.025	56.30	-7.5	27.43	37 & 38
VOID SPACE	N.37P	130.2	127.0	1.025	48.65	-9.2	38.86	31 & 32
VOID SPACE	N.37S	113.0	110.2	1.025	48.56	9.1	38.90	31 & 32
VOID SPACE	N.38P	130.2	127.0	1.025	64.13	-9.2	38.86	42 & 43
VOID SPACE	N.38S	113.0	110.2	1.025	64.22	9.1	38.98	42 & 43
VOID SPACE	N.39	1404.9	1370.6	1.025	28.2	0.0	35.81	18 & 19
VOID SPACE	N.40	1997.9	1939.4	1.025	51.56	-5.1	35.81	33 & 34
VOID SPACE	N.41	220.8	215.4	1.025	56.30	24.0	35.81	37 & 38
VOID SPACE	N.42P	441.5	430.7	1.025	56.30	-30.9	35.81	37 & 38
VOID SPACE	N.42S	441.5	430.7	1.025	56.30	30.1	35.81	37 & 38
VOID SPACE	N.43	1911.9	1865.3	1.025	80.01	2.8	35.81	53 & 54
VOID SPACE	N.44	447.3	436.4	1.025	56.30	0.8	35.81	37 & 38
VOID SPACE	N.45P	225.3	220.0	1.025	93.72	-22.0	30.10	61 & 62
VOID SPACE	N.45S	226.5	220.0	1.025	93.72	22.0	30.10	61 & 62
VOID SPACE	N.45aP	183.2	178.7	1.025	93.72	-35.0	22.71	61 & 62
VOID SPACE	N.45aS	184.2	179.7	1.025	93.72	35.0	22.71	61 & 62
VOID SPACE	N.46P	226.5	220.9	1.025	19.06	-22.0	30.10	12 & 13
VOID SPACE	N.46S	226.5	220.9	1.025	19.06	22.0	30.10	12 & 13
VOID SPACE	N.46aP	183.2	178.7	1.025	19.06	-35.0	22.71	12 & 13
VOID SPACE	N.46aS	184.2	179.7	1.025	19.06	35.0	22.71	12 & 13
VOID SPACE	N.50P	48.6	47.4	1.025	19.77	-24.8	0.76	11 & 12
VOID SPACE	N.50S	48.6	47.4	1.025	19.77	24.8	0.76	11 & 12
VOID SPACE	N.51P	48.5	47.4	1.025	98.01	-24.8	0.76	62 & 63
VOID SPACE	N.51S	48.6	47.4	1.025	98.01	24.8	0.76	62 & 63
VOID SPACE	N.52P	146.0	142.4	1.025	71.57	-15.0	12.19	46 & 47
VOID SPACE	N.52S	146.0	142.4	1.025	71.57	15.0	12.19	46 & 47
VOID SPACE	N.53P	146.0	142.4	1.025	41.22	-15.0	12.19	27 & 28
VOID SPACE	N.53S	146.0	142.4	1.025	41.22	15.0	12.19	27 & 28
VOID SPACE	N.54	297.3	290.0	1.025	84.56	0.0	12.19	55 & 56
VOID SPACE	N.55	297.3	290.0	1.025	28.19	0.0	12.19	18 & 19
VOID SPACE	N.56	2639.9	2575.5	1.025	51.11	0.0	24.64	33 & 34
VOID SPACE	N.57	2639.9	2575.5	1.025	61.07	0.0	24.64	40 & 41
VOID SPACE	N.58S	205.0	200.0	1.025	42.3	15.0	12.19	27 & 28
VOID SPACE	N.59P	205.0	200.0	1.025	42.3	-15.0	12.19	27 & 28
VOID SPACE	N.59S	205.0	200.0	1.025	70.48	15.0	12.19	46 & 47
VOID SPACE	N.59P	205.0	200.0	1.025	70.48	-15.0	12.19	46 & 47
VOID SPACE	N.60	3222.1	3143.5	1.025	56.30	-0.6	24.76	37 & 38
VOID SPACE	N.61P	499.3	487.1	1.025	70.89	-27.4	10.67	46 & 47
VOID SPACE	N.61S	499.3	487.1	1.025	70.89	27.4	10.67	46 & 47
VOID SPACE	N.62S	116.8	113.9	1.025	27.69	29.0	14.56	18 & 19
VOID SPACE	N.62P	116.8	113.9	1.025	27.69	-29.0	14.56	18 & 19
VOID SPACE	N.63S	116.8	113.9	1.025	84.58	29.0	14.56	55 & 56
VOID SPACE	N.63P	116.8	113.9	1.025	84.58	-29.0	14.56	55 & 56
VOID SPACE	N.64S	256.3	252.0	1.025	27.69	29.6	22.95	18 & 19
VOID SPACE	N.64P	256.3	252.0	1.025	27.69	-29.0	22.95	18 & 19
VOID SPACE	N.65S	256.3	252.0	1.025	84.56	29.0	22.95	55 & 56
VOID SPACE	N.65P	256.3	252.0	1.025	84.56	-29.0	22.95	55 & 56
CHAIN LOCKER	9P	116.1	113.3	1.025	93.73	-34.8	15.40	61 & 62
CHAIN LOCKER	10P	116.1	113.3	1.025	10.05	-34.8	15.40	12 & 13
CHAIN LOCKER	11S	116.1	113.3	1.025	19.05	34.8	15.40	12 & 13
CHAIN LOCKER	12S	116.1	113.3	1.025	93.73	34.8	15.40	61 & 62
Void Spaces		27928.1	27140.37		50.00	-0.06	25.14	36 & 37



DRAWING NUMBER	DRAWING TITLE
DE-3010.38-1320-962-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES PLAN SHT.2
DE-3010.38-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES PLAN SHT.3
DE-3010.38-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-962-NBD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. ONLY
DE-3010.38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT.1
DE-3010.38-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT.2
DE-3010.38-1320-962-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO U/S MAIN DECK
DE-3010.38-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRWN BY	CHKD BY	APPD BY	APPD CLIENT
E	04/10/07	AS BUILT	SCU	MSE	AT	
D	01/08/07	HP/WBFD APD	SCU	MSE	AT	
C	03/07/07	APD	SCU	MSE	AT	
B	15/12/06	REVISED APD	SCU	MSE	AT	
A	27/11/06	APD	SCU	MSE	AT	
0	11/10/06	IDC	RHS	MSE	AT	

BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

NOBLE DENTON | PETROBRAS | ABS

TITLE: P36 RONCADOR TANK CAPACITY TABLES

DRAWN DATE: SCU/DEC.07

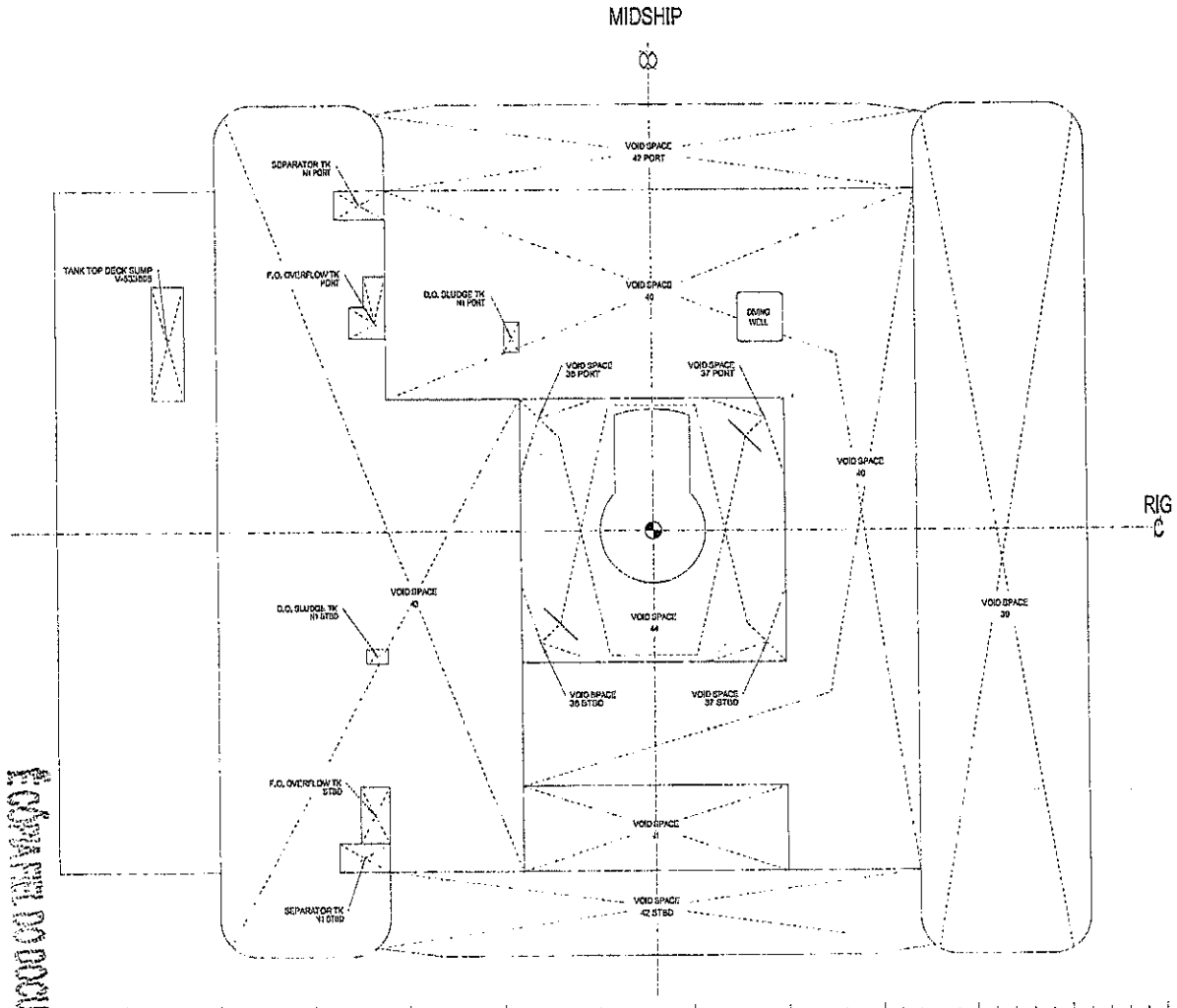
CHECKED DATE: MSE/DEC.07

APPROVED AS: AT/DEC.07

SCALE: N.T.S.

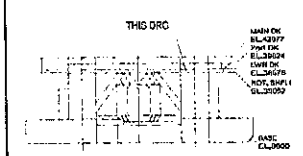
DRAWING NUMBER: DE-3010.38-1320-962-NBD-367-07

REV: E



PLAN ON DOUBLE BOTTOM
(EL.+35052 A.B.L.)

KEY PLAN



DRAWING NUMBER	DRAWING TITLE
DE-3010.38-1320-902-NDD-301-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-902-NDD-302-02	G.A. of PONTOON TANKS & SPACES ELEV. SHT.2
DE-3010.38-1320-902-NDD-303-03	G.A. of PONTOON TANKS & SPACES CLEV. SHT.3
DE-3010.38-1320-902-NDD-304-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-902-NDD-305-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DE-3010.38-1320-902-NDD-306-06	TANK CAPACITY TABLE SHT.1
DE-3010.38-1320-902-NDD-307-07	TANK CAPACITY TABLE SHT.2
DE-3010.38-1320-902-NDD-308-08	CAPACITY PLAN - TANK TOP TO UP MAIN DECK
DE-3010.38-1320-902-NDD-309-09	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-902-NDD-310-10	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-902-NDD-311-11	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-902-NDD-312-12	STORAGE AND LAYDOWN AREAS AT SECOND DECK

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD DATE
B	02.10.09	AS BUILT	CDE	VDE	AF	
A	01.04.09	A.F.C.	SDE	VDE	MSE	

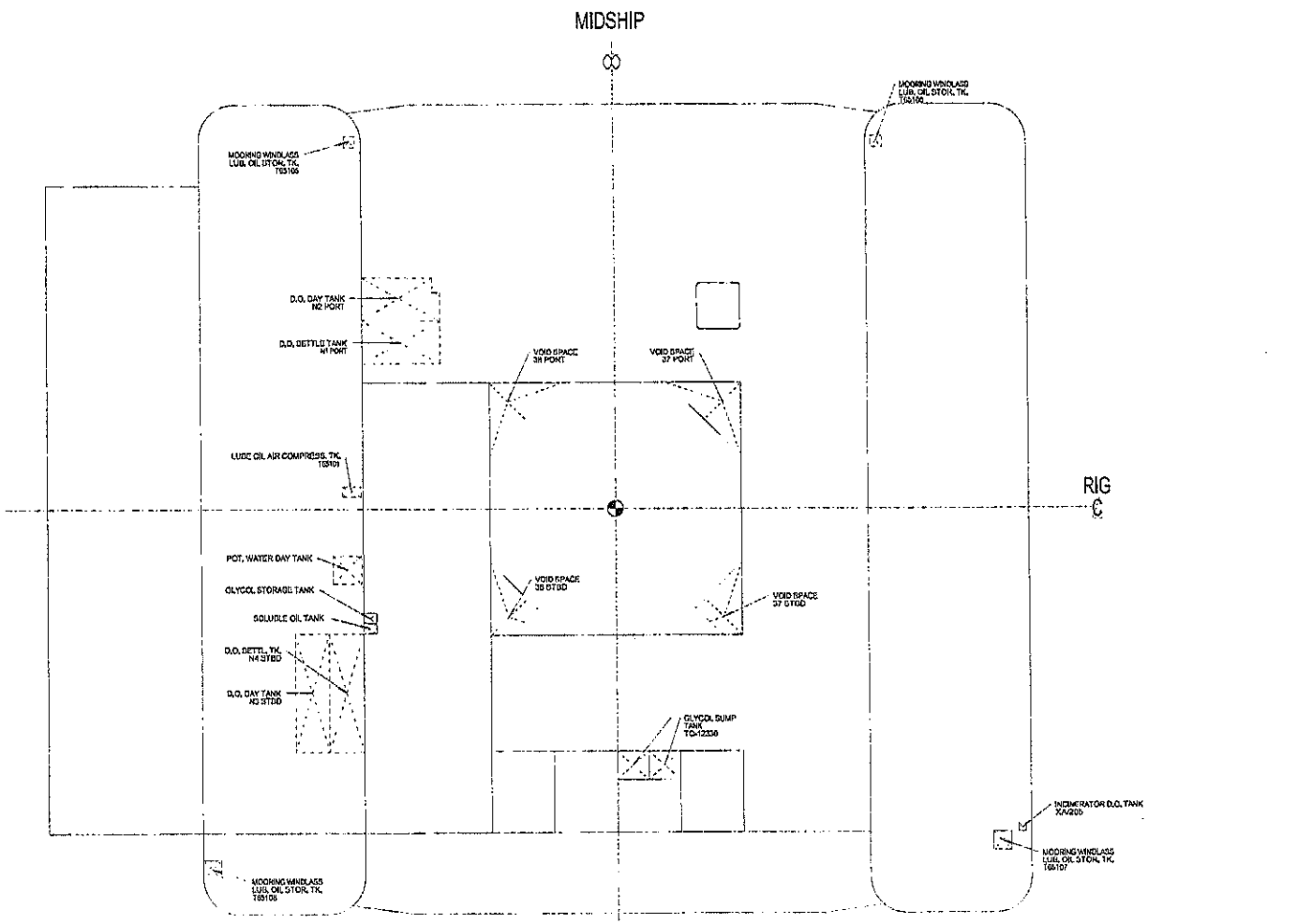
P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

PETROBRAS | NOBLE DENTON | Petrobras | AMEC

TITLE
CAPACITY PLAN
DOUBLE BOTTOM
EL.+35052 - EL.+36575 A.B.L.

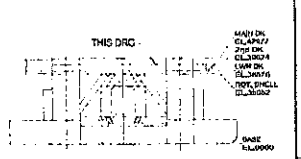
DRAWN ON DATE: SCE/AUG.09
CHECKED DATE: MSE/OCT.09
APPROVED DATE: AT/OCT.09
SCALE: 1:200

ORIGINATOR: DE-3010.38-1320-902-NDD-307-09 REV: B



PLAN AT TANK TOP TO U/S MAIN DECK
(EL.+36576 A.B.L.)

KEY PLAN



DE-3010.36-1320-962-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DE-3010.36-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES CLEV. SHT.2
DE-3010.36-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES CLEV. SHT.3
DE-3010.36-1320-962-NBD-367-04	G.A. of COLUMNS & CANTOON TANKS & SPACES PLAN
DE-3010.36-1320-962-NBD-367-05	G.A. of POV DOH TANKS & SPACES CANTOON EL. SHT.5
DE-3010.36-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT. 1
DE-3010.36-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT. 2
DE-3010.36-1320-962-NBD-367-08	CAPACITY PLAN - BOUDLE BOTTOM
DE-3010.36-1320-962-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.36-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.36-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT "TANK TOP"
DE-3010.36-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER — DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHK'D BY	APPD BY	APPD CLIENT
A	20.10.99	AS BUILT	SCL	MSE	AT	
0	01.09.99	A.F.C.	SCL	MSE	MSE	

PETROBRAS | BRASOIL | P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

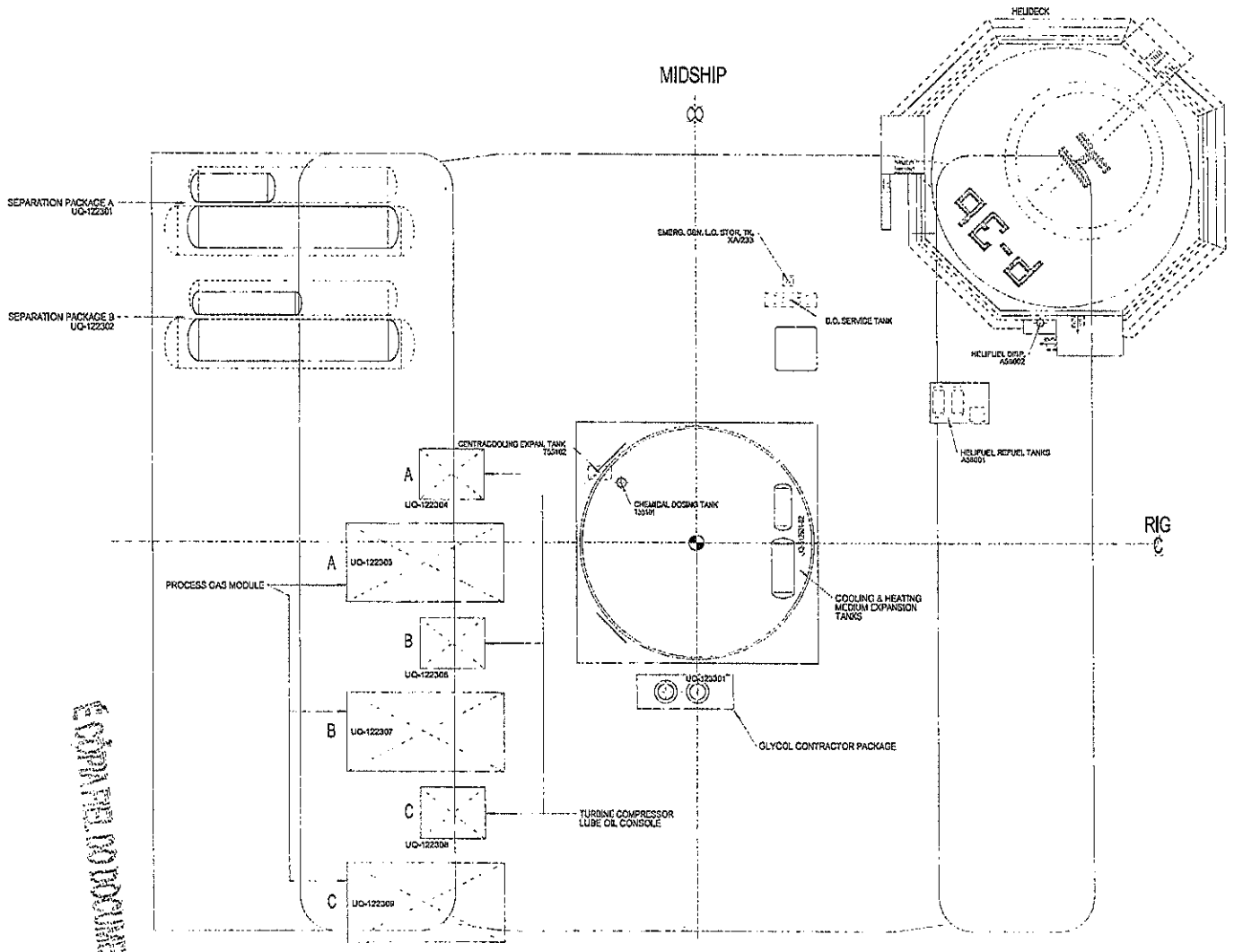
NOBLE DENTON | Petrobras | AMEC

TITLE
CAPACITY PLAN
TANK TOP TO U/S MAIN DECK
EL.+36576 - EL.+42977 A.B.L.

DRAWN DATE: SCL/AUG.00
DESIGNED DATE: MSE/OCT.99
APPROVED DATE: AT/OCT.99
SCALE: 1:200
REV: A

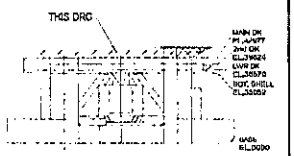
DRAWING NUMBER: DE-3010.36-1320-962-NBD-367-00

CONTROLLED DOCUMENT



PLAN AT AND ABOVE MAIN DECK
(EL.+42.672 A.B.L. & ABOVE)

KEY PLAN



DC-3010,38-1320-962-NBD-367-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DC-3010,38-1320-962-NBD-367-02	G.A. of PONTOON TANKS & SPACES E.EV. SHT.2
DC-3010,38-1320-962-NBD-367-03	G.A. of PONTOON TANKS & SPACES C.EV. SHT.3
DC-3010,38-1320-962-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DC-3010,38-1320-962-NBD-367-05	G.A of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DC-3010,38-1320-962-NBD-367-06	TANK CAPACITY TABLE SHT.1
DC-3010,38-1320-962-NBD-367-07	TANK CAPACITY TABLE SHT.2
DC-3010,38-1320-962-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DC-3010,38-1320-962-NBD-367-09	CAPACITY PLAN - TANK TOP TO UG MAIN DECK
DC-3010,38-1320-962-NBD-367-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DC-3010,38-1320-962-NBD-367-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DC-3010,38-1320-962-NBD-367-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

DRAWING NUMBER | DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRWN BY	CHKD BY	APPD BY	APPD DATE
1	22.10.99	AS BUILT	SCE	MSE	AT	
0	01.09.99	A.F.C.	SCE	MSE	AT	

P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

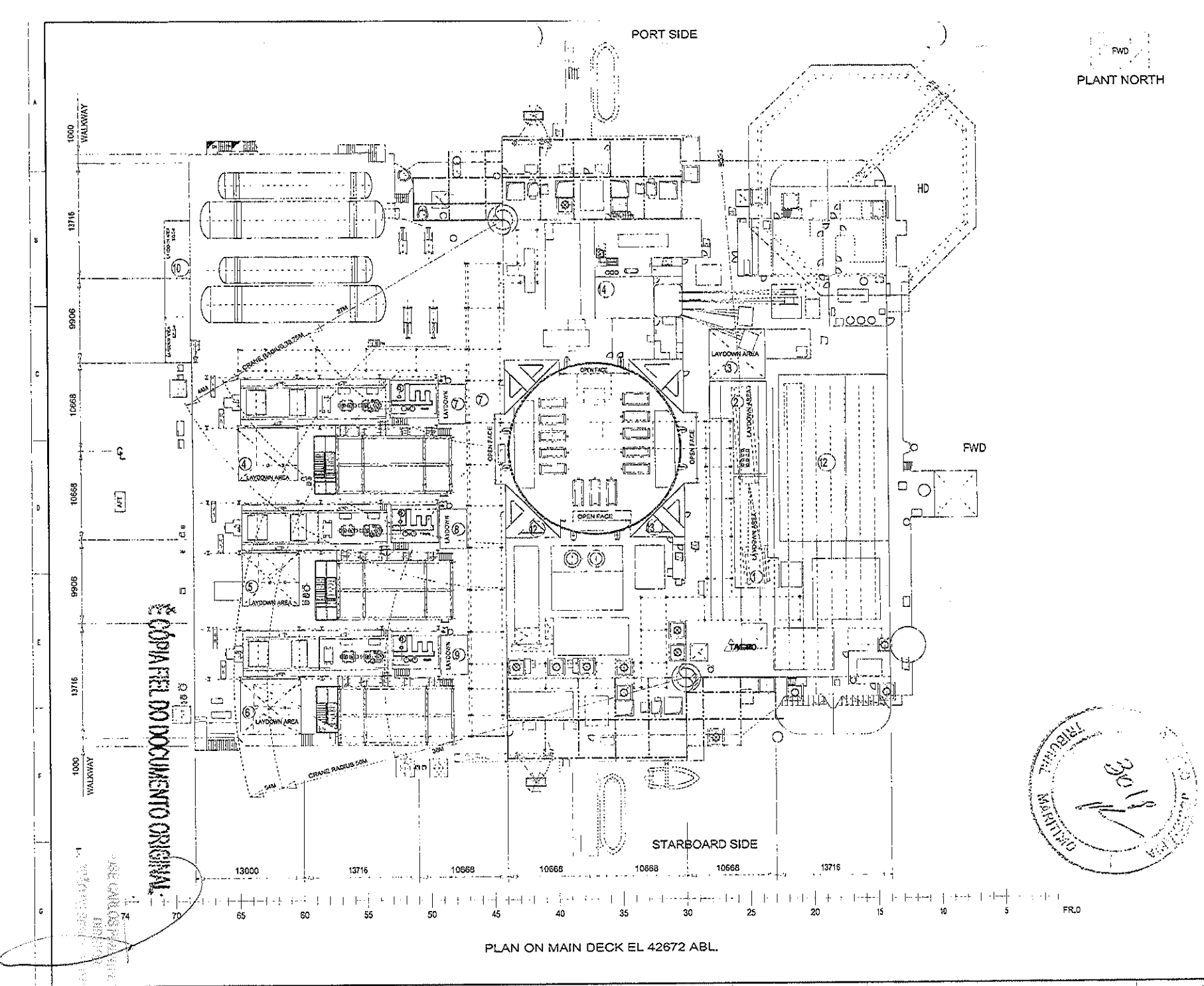
BRADOIL | NOBLE DENTON | Petromec | ABC

TITLE

CAPACITY PLAN
MAIN DECK AND ABOVE
EL.+42977 A.B.L. AND UPWARDS

DRAWN/DATE: SCE/AUG.99
CHECKED/DATE: MSE/OCT.99
APPROVED/DATE: AT/OCT.99
SCALE: 1:200

DRAWING NUMBER: DC-3010,38-1320-962-NBD-367-10
REV: A



PLAN ON MAIN DECK EL 42672 ABL.

AREA No.	DESCRIPTION	MAX Wt. (t)	CENTROID	
1	TOTE TANK LAYDOWN	70.0	A	37.14
			S	10.67
			EL	43.00
2	MISC LAYDOWN 1	75.0	A	4.55
			S	-3.52
			EL	43.00
3	MISC LAYDOWN 2	53.3	A	39.27
			S	-11.26
			EL	43.00
4	COMPRESSION A LAYDOWN	58.1	A	85.42
			S	0.43
			EL	43.00
5	COMPRESSION B LAYDOWN	50.0	A	85.44
			S	15.43
			EL	43.00
6	COMPRESSION C LAYDOWN	63.8	A	85.44
			S	30.80
			EL	43.00
7	TURBINE A LAYDOWN	10.0	A	73.34
			S	-5.48
			EL	43.00
8	TURBINE B LAYDOWN	10.0	A	73.34
			S	9.54
			EL	43.00
9	TURBINE C LAYDOWN	10.0	A	73.34
			S	24.54
			EL	43.00
10	PIG LAUNCHER LAYDOWN	67.4	A	109.05
			S	-19.00
			EL	36.56
11	MULTIPURPOSE COURT	212.0	A	30.37
			S	1.29
			EL	43.00
HD	HELIDECK	24.0	A	23.99
			S	-32.40
			EL	48.00
12	PAINT LOCKER	27.83	A	65.80
			S	8.51
			EL	43.87
13	DECK LOCKER	27.83	A	48.80
			S	8.51
			EL	43.87
14	RISER PULL-IN EQUIP. STORAGE AREA	45.84	A	52.67
			S	-18.10
			EL	43.00
	TOTAL	848.4	A	43.09
			S	-13.22
			EL	45.69

DRAWING NUMBER	DRAWING TITLE
DE-3010.38-1320-940-NBD-367-01	G.A. of PONTOON, TANKS & SPACES PLAN SHT.1
DE-3010.38-1320-940-NBD-367-02	G.A. of PONTOON, TANKS & SPACES CL/V SHT.2
DE-3010.38-1320-940-NBD-367-03	G.A. of PONTOON, TANKS & SPACES ELEVATION
DE-3010.38-1320-940-NBD-367-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-940-NBD-367-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.6
DE-3010.38-1320-942-NBD-367-06	TANK CAPACITY TABLE SHT.1
DE-3010.38-1320-942-NBD-367-07	TANK CAPACITY TABLE SHT.2
DE-3010.38-1320-910-NBD-367-08	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-910-NBD-367-09	CAPACITY PLAN - TANK TOP TO BUS MAIN DECK
DE-3010.38-1320-910-NBD-367-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-940-NBD-367-11	STORAGE AND LAYDOWN AREAS AT TANK TOP
DE-3010.38-1320-940-NBD-367-12	STORAGE AND LAYDOWN AREAS AT MAIN DECK

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
A	02.10.00	AS BUILT	SCE	MSC	AT	
0	01.09.00	A.F.C.	SCE	MSC	MSC	

PETROBRAS

P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

NOBLE DENTON | Petrobras | AMEC

TITLE

STORAGE & LAYDOWN AREAS @ MAIN DECK LEVEL
EL. 42,672 A.B.L.

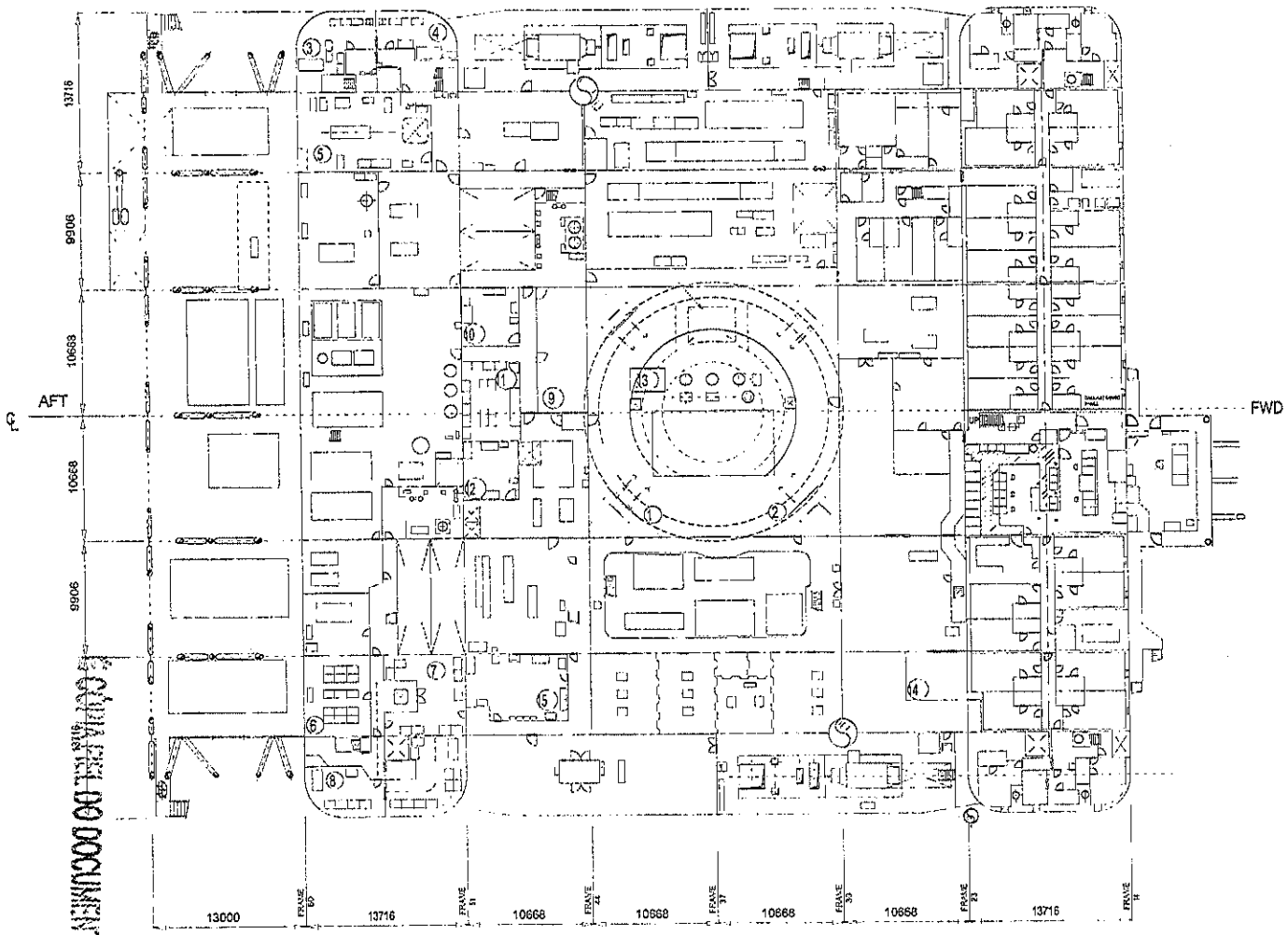
DRAWN DATE: SCE/AUG.99
CHECKED DATE: MSC/OCT.99
APPROVED DATE: AT/OCT.99
SCALE: 1:200

DRAWING NUMBER: DE-3010.38-1320-940-NBD-367-11
REV: A

COPIA CONTROLADA DOCUMENTO ORIGINAL
TRIBUNAL MARITIMO
3019

PORT

PLANT NORTH



STARBOARD

AREA No.	DESCRIPTION	MAX WL (t)	CENTROID
1	PUMP STORE AFT	8.04	A 63.51 S 9.55 EL 38
2	PUMP STORE FWD	8.04	A 1.26 S 9.85 EL 37.88
3	MECH STORE 1	42.48	A 68.40 S -31.10 EL 37.88
4	MECH STORE 2	30.96	A 81.40 S -32.16 EL 37.88
5	MECH WORKSHOP	99.56	A 65.67 S -23.80 EL 37.88
6	PRODUCTION WAREHOUSE	51.42	A 98.01 S 24.15 EL 37.58
7	PRODUCTION WAREHOUSE	32.31	A 90.51 S 24.00 EL 37.58
8	STORE	81.00	A 82.80 S 31.44 EL 37.68
9	STORE	60.34	A 66.19 S -5.33 EL 37.88
10	ELECTRICAL WORKSHOP	32.54	A 75.27 S -5.16 EL 37.78
11	ELECTRICAL STORE	43.51	A 75.27 S -1.62 EL 37.78
12	HYDRAULIC WORKSHOP	31.14	A 75.37 S 4.83 EL 37.68
13	CENTRAL CAISSON LAYDOWN AREA	5.50	A 61.89 S -2.79 EL 37.58
14	STARBOARD FORWARD LAYDOWN AREA	10.60	A 37.67 S 22.02 EL 37.58
15	INSTRUMENTATION WORKSHOP	61.29	A 73.19 S 23.30 EL 37.58
	TOTAL	629.61	A 78.11 S 3.04 EL 37.72

DRAWING NUMBER	DRAWING TITLE
DE-3010.38-1320-902-NDO-305-05	G.A. of PONTOON TANKS & SPACES PLAN SHT.2
DE-3010.38-1320-902-NDO-305-07	G.A. of PONTOON TANKS & SPACES ELEV.S-S2
DE-3010.38-1320-902-NDO-305-08	G.A. of PONTOON TANKS & SPACES ELEV.P-S3
DE-3010.38-1320-902-NDO-305-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DE-3010.38-1320-902-NDO-305-03	G.A. of PONTOON TANKS & SPACES CAISSON EL.-2347.0
DE-3010.38-1320-902-NDO-307-09	TANK CAPACITY TABLE SHT. 1
DE-3010.38-1320-902-NDO-307-07	TANK CAPACITY TABLE SHT. 2
DE-3010.38-1320-902-NDO-305-06	CAPACITY PLAN - DOUBLE BOTTOM
DE-3010.38-1320-902-NDO-305-09	CAPACITY PLAN - TANK TOP TO U/S MAIN DECK
DE-3010.38-1320-902-NDO-305-10	CAPACITY PLAN - MAIN DECK AND ABOVE
DE-3010.38-1320-902-NDO-307-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DE-3010.38-1320-902-NDO-307-13	STORAGE AND LAYDOWN AREAS AT SECOND DECK

REFERENCE DRAWINGS

REV	DATE (M/D)	DESCRIPTION OF REVISION	ORIGIN BY	CHKD BY	APPD BY	APPD CLIENT
A	02.10.09	ISSUE BUILT	SCE	MSE	AT	
0	01.00.99	N.F.C.	SCE	MSE	MSE	

P36-RONCADOR FIELD DEVELOPMENT
CONTRACT No :- 7/15/2150

TBR BRASOIL | NOBLE DENTON | Petrobras | ABS

TITLE

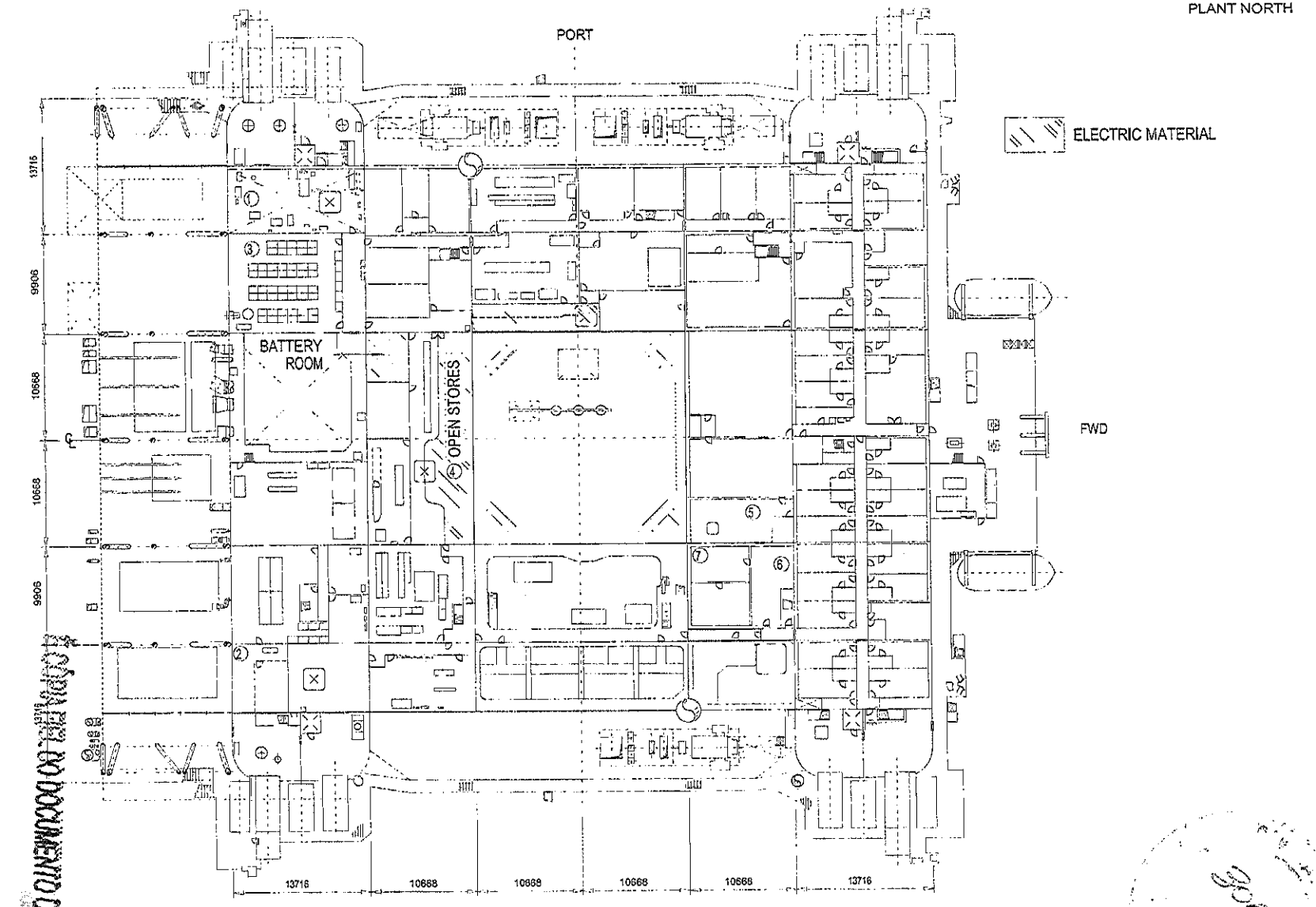
STORAGE & LAYDOWN AREAS
@ TANK TOP LEVEL
EL. 36,576 A.B.L.

DRAWN DATE: SCE/AUG.09
CHECKED DATE: MSE/OCT 99
APPROVED DATE: AT/OCT 99
SCALE: 1:200

DRAWING NUMBER: DE-3010.38-1320-902-NDO-307-12
REV: A

PLAN ON TANK TOP
EL. 36576

CONTRACTED DOCUMENTO CONTRATADO



PLAN ON SECOND DECK
EL. 39624

AREA No.	DESCRIPTION	MAX WL (1)	CENTROID
1	WELD SHOP	124.68	A 84.58 -24.00 10.62
2	PRODUCTION WAREHOUSE	5C85	A 46.80 -24.00 41.12
3	WAREHOUSE	140.86 100.44	A 55.73 -15.02 41.12 A 69.43 -6.20 41.02
4	OPEN STORE	59.70	A 40.21 6.46 40.52
5	DRY STORE 1	45.92	A 37.21 15.03 40.02
6	DRY STORE 2	61.04 3.06	A 42.47 15.03 41.00 A 45.72 0.00 41.82
7	CHILLING ROOM/ FREEZER	605.19	A 70.02 -3.29 40.89
	CREW & EFFECTS		
	TOTAL		

DC-3010,38-1320-940-N8D-387-01	G.A. of PONTOON TANKS & SPACES PLAN SHT.1
DC-3010,38-1320-942-N8D-387-02	G.A. of PONTOON TANKS & SPACES ELEV. SHT.2
DC-3010,38-1320-943-N8D-387-03	G.A. of PONTOON TANKS & SPACES ELEV. SHT.3
DC-3010,38-1320-944-N8D-387-04	G.A. of COLUMNS & CAISSON TANKS & SPACES PLAN
DC-3010,38-1320-945-N8D-387-05	G.A. of PONTOON TANKS & SPACES CAISSON EL. SHT.5
DC-3010,38-1320-947-N8D-387-06	TANK CAPACITY TABLE SHT. 1
DC-3010,38-1320-948-N8D-387-07	TANK CAPACITY TABLE SHT. 2
DC-3010,38-1320-950-N8D-387-08	CAPACITY PLAN – DOUBLE BOTTOM
DC-3010,38-1320-951-N8D-387-09	CAPACITY PLAN – TANK TOP TO MAIN DECK
DC-3010,38-1320-952-N8D-387-10	CAPACITY PLAN – MAIN DECK AND ABOVE
DC-3010,38-1320-953-N8D-387-11	STORAGE AND LAYDOWN AREAS AT MAIN DECK
DC-3010,38-1320-954-N8D-387-12	STORAGE AND LAYDOWN AREAS AT TANK TOP
DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWINGS

REV	ISSUE DATE	DESCRIPTION OF REVISION	DRAWN BY	CHKD BY	APPD BY	APPD CLIENT
A	29.09.99	AS BUILT	SCE	MSE	AT	
0	01.08.00	A.F.C.	SCE	MSE	MSE	

BRASOIL | P36-RONCADOR FIELD DEVELOPMENT CONTRACT No :- 7/15/2150

NOBLE DENTON | Petronius | AMEC

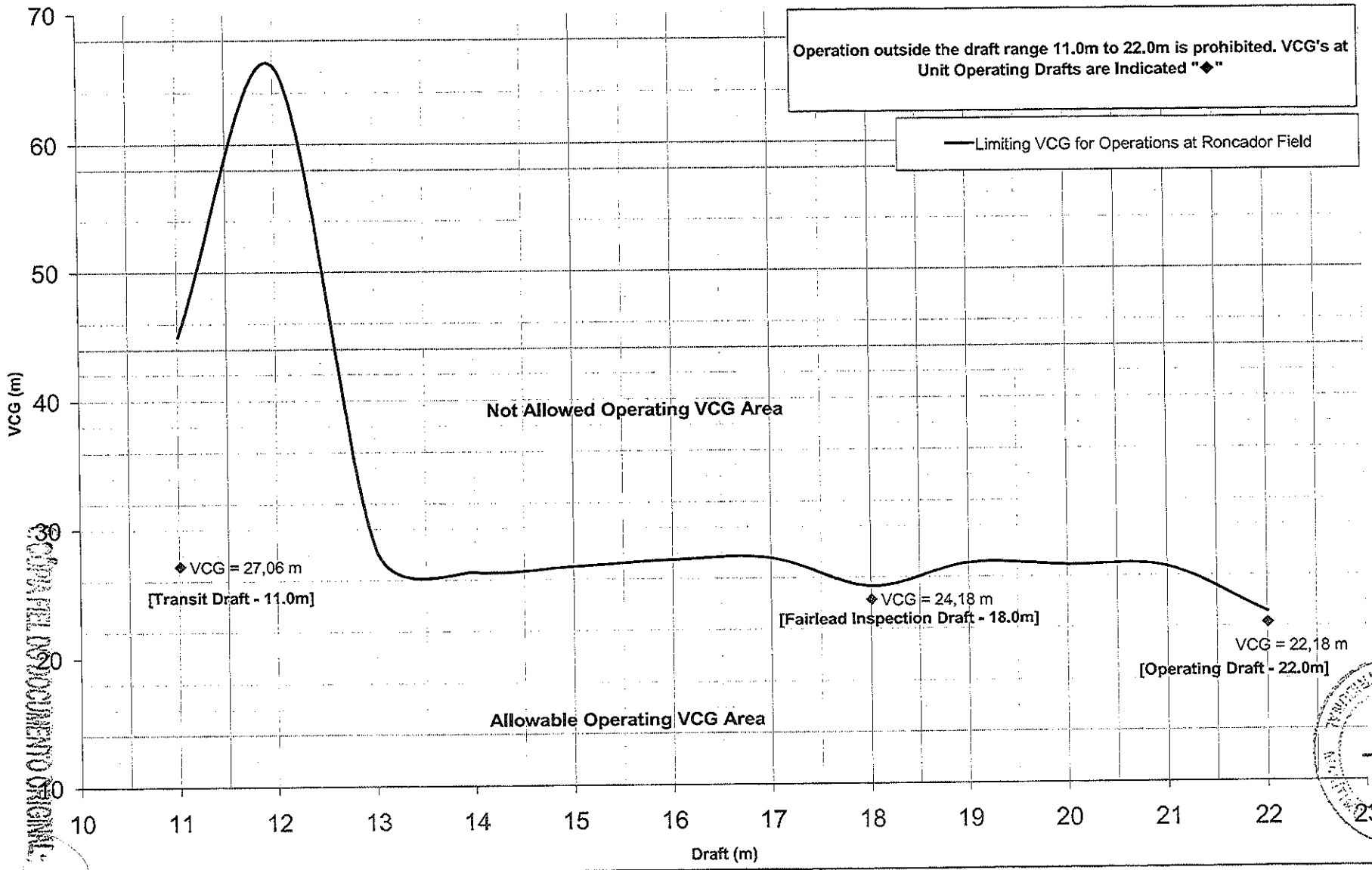
TITLE: STORAGE & LAYDOWN AREAS @ SECOND DECK LEVEL EL. 39.024 A.B.L.

DRAWN DATE: SCE/AUG.00
CHECKED DATE: MSE/OCT 99
APPROVED DATE: AT/OCT 99
SCALE: 1:200

DRAWING NUMBER: DC-3010,38-1320-062-N8D-387-13 REV: A

ESTE DESENHO É PROPRIEDADE DA PETROBRAS E NÃO PODERÁ SER REPRODUZIDO SEM AUTORIZAÇÃO

P36 FPU
Max Allowable VCG Curve for Operation at Roncador Field



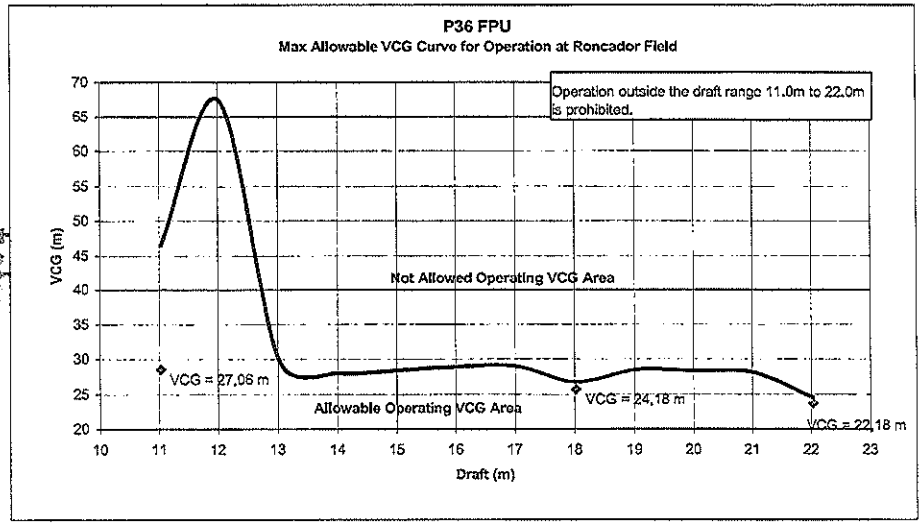
CONTROLLED DOCUMENT ORIGINAL

WS 7/15/2166
Proj P36 Roncador
Client Petromec
Date 13/jan/98
By MSE
Chkd

Title **Allowable VCG for P36 at Roncador Field**

(All values are metres)

DRAFT	Assumed KG	$KM_{Limiting}$	GM_{fluid}	Limiting VCG for Operations at Roncador Field	Allowable Stability Margin	Limiting Condition
22,00	**22,18**	**27,20**	**5,02**	**23,04**	**0,86**	**Damaged Stability**
21,00		26,90	-	26,60		GM>0.3m (Transition)
20,00		27,10	-	26,80		GM>0.3m (Transition)
19,00		27,30	-	27,00		GM>0.3m (Transition)
18,00	**24,18**	**28,10**	**3,92**	**25,23**	**1,05**	**Damaged Stability**
17,00		27,80	-	27,50		GM>0.3m (Transition)
16,00		27,70	-	27,40		GM>0.3m (Transition)
15,00		27,20	-	26,90		GM>0.3m (Transition)
14,00		26,80	-	26,50		GM>0.3m (Transition)
13,00		28,50	-	28,20		GM>0.3m (Transition)
12,00		66,20	-	65,90		GM>0.3m (Transition)
11,00	**27,06**	**70,50**	**43,44**	**44,90**	**17,84**	**Damaged Stability**



ESTE DOCUMENTO É CÓPIA FIEL DO ORIGINAL

DIVISÃO JUDICIÁRIA

Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft
Stage 5 - Draft = 18.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	76%	680	6,78	30,71	4,77	0,006	0,017
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	62%	351	26,94	-36,18	3,79	0,001	0,012
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	1%	7	51,06	-30,81	0,05	0,000	0,000
SW Ballast 11S	644,7	1,025	1%	7	51,06	30,81	0,05	0,000	0,000
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	5%	30	61,72	30,81	0,24	0,004	0,012
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				4713	15,01	1,88	5,33	0,01	0,04

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,005	0,014
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	4713,4	15,0	1,9	5,33	0,012	0,041
Displacement	**50389,5**	**57,123**	**-0,023**	**24,12**	**0,017**	**0,056**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	22,43 m
MCTC	17,52 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

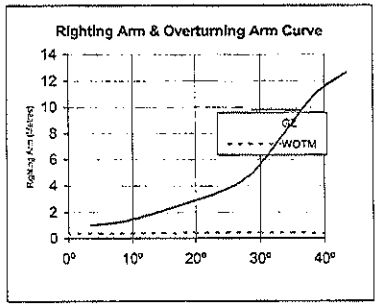
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	24,14 m	24,18 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	3,46 m	3,92 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	1,05 m



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Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,43	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,5	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-28,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	28,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,08	36,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,01	4,68	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,01	4,68	0,000	0,000
FO Tank	12P	100%	0,960	580,5	51,72	-23,86	4,83	0,000	0,000
FO Tank	12S	100%	0,960	580,5	51,72	23,92	4,83	0,000	0,000
FO Overflow	P	100%	0,960	18,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,88	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,0	97,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	16,10	35,91	0,000	0,000
DO Settle	N1P	100%	0,870	165,3	74,52	-13,60	38,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,60	-17,44	38,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOGstl	N4S	100%	0,870	79,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			391,2	76,08	-3,55	39,04	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,86	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	29,39	29,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,68	9,95	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-8,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	0,10	40,39	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-20,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	20,31	0,38	0,000	0,000
W.I.L.ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L.ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	28,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-28,70	27,00	0,000	0,000
Helifuel Refuel	AS8001	100%	1,000	7,9	34,55	-12,53	43,02	0,000	0,000
Helifuel Disp	AS8002	100%	1,000	0,1	25,81	-10,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59208	100%	0,870	0,2	21,66	26,76	43,04	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	03,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	64,97	-5,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,800	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	50%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-933005	50%	1,000	8,0	78,22	9,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	55,92	0,28	42,06	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	62,29	-26,51	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	62,29	-18,53	47,34	0,002	0,006
Oil Separation - Heating	UQ-122305	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	81,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,66	17,60	37,92	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,90	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,6	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	69,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,060	13,2	57,13	16,93	46,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,87	46,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,86	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,39	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,03	23,08	38,59	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A39003	100%	1,000	0,4	59,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,023	8,2	32,08	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	D-511102A/B/C	100%	1,025	59,0	56,39	5,25	20,00	0,000	0,000
Water Deluge System (inc Piping)	UQ-125101	100%	1,023	49,2	74,40	0,00	47,67	0,000	0,000
Process Piping & Valves		100%	0,850	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	30,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	23,90	49,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,28	31,65	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,28	16,95	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,06	-11,69	43,74	0,005	0,014

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		165,5	24,34	-15,27	6,80
P-1-10	N4,N5,N6	Y		165,5	24,34	15,27	6,80
P-1-08	N7,N8,N9	Y		165,5	24,34	14,75	6,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		108,5	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	48,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,5	55,26	18,57	6,22
I-1-04	E17,E18	Y		108,5	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,04	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,0	92,44	10,13	29,25
P-1-05	S3,S4,S5	Y		166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,00	29,25
Service Mansfield Riser 4"	S16	Y		51,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,00	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,00	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,0	92,44	-6,87	29,25
FUTURE (W) F1/I1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-36,29	8,00
Electr. Cable	W3	Y		25,6	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	91,17	-18,57	6,18
OIL G - EXPORT Riser 10" RO-03	W5	Y		144,5	53,50	-18,57	6,50
OIL G - EXPORT Riser 10" RO-02	W6	Y		144,0	32,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		108,2	40,77	-36,29	8,00
Connected Risers	0			5951,6	66,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	85%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	86,00	24,00	41,12
Warehouse	SD-03	20%	30,6	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	20%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,32	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	85,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	29,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,32	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	85,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	29,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	3592	1021,8	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,05	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1707,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	69,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	40,26	9,85	37,88
Mech Store 1	TT-03	25%	10,8	68,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	61,40	-32,18	37,08
Mech Workshop	TT-05	20%	19,9	85,07	-23,86	37,53
Production Warehouse	TT-06	60%	30,0	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	85,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	9,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	20,30	37,58
Crew & Stores @TT	0		169,3	76,94	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	69,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	80%	27,8	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,19	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,02	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	35,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	35,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	35,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,65	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

DOCUMENTO ORIGINAL
DIVISÃO JURÍDICA
2024

NOBLE DENTON

Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft
Stage 4 - Draft = 19.7m

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	76%	684	6,78	30,71	4,79	0,006	0,016
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	62%	353	26,94	-36,18	3,81	0,001	0,011
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				7285	29,57	1,12	5,06	0,01	0,03

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,005	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	7285,5	29,6	1,1	5,06	0,007	0,027
Displacement	**52961,6**	**57,081**	**-0,035**	**23,17**	**0,012**	**0,041**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	19,7 m
LCB (from FP)	57,09 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,17 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	26,68 m
MCTC	20,60 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

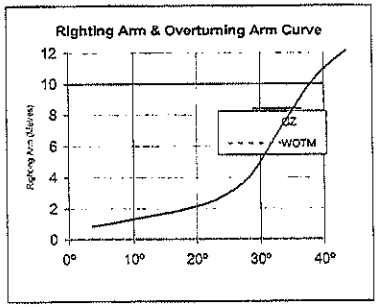
Draft Aft Perpendicular (INPUT)	19,61 m
Heel about centreline (INPUT)	0,86°
Trim About aft perp. (INPUT)	0,08°
Heel about centreline	0,495 m
Trim About aft perp.	0,163 m
Mean Draft Aft	19,609 m
Mean Draft @ Amidships	19,691 m
Mean Draft Forward	19,772 m

Statical Stability

Corrected VCG =	23,19 m	23,22 m
KMT / KML =	27,10 m	27,60 m
GMT / GML =	3,91 m	4,38 m

Stability Margin

Allowable VCG =	26,80 m
Stability Margin =	3,58 m



Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft

NOBLE DENTON

Summary Breakdown of Deadweight Loads

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	270,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	270,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process HW)	0			1049,3	46,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-28,90	25,00	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	28,99	25,00	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,29	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	566,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	566,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	560,5	61,72	-22,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	560,5	61,72	22,82	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,88	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,00	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,38	-15,02	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,99	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,00	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,80	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,06	-3,55	39,94	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,85	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,85	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	29,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,83	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122308	100%	0,900	15,0	88,67	24,85	49,25	0,000	0,000
Turbine Lube Oil Console 'S'	UQ-122306	100%	0,900	15,0	88,66	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	100%	0,900	15,0	80,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	6,10	40,58	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,8	78,40	-26,31	0,98	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,8	78,40	26,31	0,98	0,000	0,000
W.L.ning Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.ning Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Stard)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-5140D1	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,20	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,59	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	25,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-25,70	27,00	0,000	0,000
Hel/fuel Refuel	A39001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Hel/fuel Disp	A48002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator OO Day Tank	T05905	100%	0,870	0,2	21,88	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	84,97	-6,20	52,01	0,000	0,000
Oily Water Separators	V-55201/V-55202	100%	0,000	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ423301	60%	1,080	12,1	55,29	21,53	37,08	0,000	0,000
Tank Top Sump Tank	T05-033605	50%	1,000	8,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	9,26	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-29,31	47,27	0,002	0,006
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-16,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Coleson	TD-533601	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,69	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	100%	0,900	38,9	59,48	13,14	44,06	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	16,88	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	100%	0,900	1,7	61,96	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,50	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512301	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Metrix Separator	V-05212	100%	0,000	10,0	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,075	14,5	62,88	30,50	45,06	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	65,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	59,94	22,08	45,10	0,000	0,000
Coleson Pumps Antifouling Package	UQ-512101	100%	1,025	6,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	D-511102A/B/C	100%	1,025	59,9	59,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,04	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,06	-21,00	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	29,7	26,81	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,935	43,3	31,81	23,00	48,58	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,850	8,0	79,29	31,85	48,86	0,000	0,000
Process Gas Module 'D'	UQ-122307	100%	0,850	8,0	79,26	10,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,850	8,0	79,29	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1007,0	78,65	-11,65	43,74	0,005	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	183,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y	183,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	183,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y	108,6	41,28	18,57	6,22
P-1-09	E3,E4,E5	Y	166,0	43,84	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,04	18,57	0,32
P-1-04	E12,E13,E14	Y	166,0	52,64	18,57	0,32
I-1-03	E15,E16	Y	108,6	55,28	18,57	6,22
I-1-04	E17,E18	Y	108,6	57,26	18,57	6,22
P-1-07	E18,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,64	18,57	0,32
P-1-01	E31,E32,E33	Y	166,0	71,04	18,57	6,32
I-1-05	S1,S2	Y	108,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	6,75	29,25
P-1-00 (M/Fld) Riser 6"	S12	Y	93,8	92,44	3,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,00	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Culm. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	108,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y	108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y	166,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,0	92,44	-14,25	29,25
Optical Cable	S32	Y	11,6	92,44	-16,00	29,25
SPARE	W1	Y	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	159,0	71,63	-30,29	9,00
Elect. Cable	W3	Y	25,8	92,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,99	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,0	32,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,6	66,25	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	88,00	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	99,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	49,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	13,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,62
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	91,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	28,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,30	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,03	36,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,10	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,64	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,20	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,58
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,68
Mech Workshop	TT-05	20%	19,8	85,97	-23,85	37,58
Production Warehouse	TT-06	60%	30,9	88,01	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,35	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,10	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,63	37,68
Central Coleson Laydown Area	TT-13	10%	0,6	61,69	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,33	37,89

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	95,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,8	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,97	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,32	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,26	43,00
Compression A Laydown	LD-04	50%	29,6	98,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,45	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,40	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	30,58
Multipurpose Court	LD-11	50%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	32,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft
Stage 3 - Draft = 20.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	76%	684	6,78	30,71	4,79	0,006	0,016
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	5%	24	28,19	31,74	0,13	0,004	0,015
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	4%	23	85,84	-36,18	0,27	0,001	0,011
SW Ballast 18S	555,2	1,025	41%	233	85,84	36,18	2,53	0,001	0,011
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				7760	31,27	1,13	5,11	0,01	0,05

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,001	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	7759,9	31,3	1,1	5,11	0,012	0,052
Displacement	**53436,1**	**57,083**	**-0,024**	**23,02**	**0,017**	**0,066**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	20,0 m
LCB (from FP)	57,08 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,27 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	27,93 m
MCTC	21,39 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

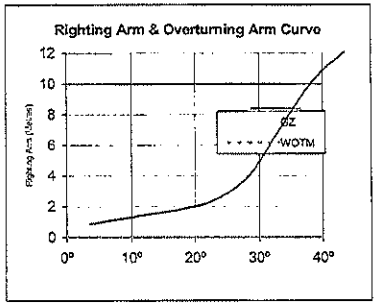
Draft Aft Perpendicular (INPUT)	20,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	20,000 m
Mean Draft @ Amidships	20,000 m
Mean Draft Forward	20,000 m

Statical Stability

Corrected VCG =	23,04 m	23,09 m
KMT / KML =	27,10 m	27,60 m
GMT / GML =	4,06 m	4,51 m

Stability Margin

Allowable VCG =	26,80 m
Stability Margin =	3,71 m



Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,97	4,99	38,10	0,000	0,000
Potable Water	0			402,7	84,30	0,18	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,80	35,81	0,000	0,000
Fuel Oil	0			2393,0	59,70	0,04	5,05	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,0	87,01	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,0	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,80	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	16,02	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	78,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,000	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,000	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,69	-30,07	40,67	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	26,10	40,67	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,66	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,80	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	100%	0,900	15,0	89,07	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	100%	0,900	15,0	89,08	9,55	48,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			69,2	84,60	6,10	40,58	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,0	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	G5-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,99	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p4k	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p4k	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p4k	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p4k	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hellfuel Reliuel	A58001	100%	1,000	7,9	34,55	-12,53	43,02	0,000	0,000
Hellfuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59306	100%	0,870	0,2	21,66	26,70	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,36	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-4,20	52,91	0,000	0,000
Oily Water Separators	V-56201A/V-56202	100%	0,900	1,4	80,77	0,00	29,60	0,000	0,000
Glycol Sump Tank	TQ-123301	80%	1,080	12,1	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	40,47	0,000	0,000
Non Structural Tanks	0			32,1	54,82	5,28	42,06	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-28,91	47,27	0,002	0,008
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	79,7	77,27	-20,01	47,46	0,000	0,000
Production Caisson	TO-533601	100%	0,000	47,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,07	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,08	9,55	48,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond, Chemical Injection Packag	UQ-582503	100%	0,900	38,5	58,48	13,14	44,88	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-582501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-582502	100%	0,900	19,2	54,46	18,56	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-582501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	100%	0,900	1,7	51,00	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,50	12,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,76	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,6	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,9	50,51	-13,39	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	16,03	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,00	45,06	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,09	14,72	39,06	0,000	0,000
Fuel Gas Treatment Package	UQ-512501	100%	1,000	9,4	97,93	22,08	38,35	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,0	63,87	-16,38	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	58,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	S-511102A/B/C	100%	1,025	59,9	55,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	154,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,80	-21,80	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	29,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,965	43,3	31,81	23,90	49,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,26	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,26	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,26	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1687,8	76,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-19,27	8,80
P-1-10	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		169,7	24,34	17,37	8,59
I-1-01	E1,E2	Y		166,6	41,28	18,57	6,22
P-1-09	E3,E4,E5	Y		166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,04	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		166,6	55,26	18,57	6,22
I-1-02	E17,E18	Y		166,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		169,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,04	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,04	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,04	18,57	6,32
I-1-05	S1,S2	Y		168,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		168,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		168,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		168,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,00	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		166,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y		166,6	92,44	-9,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y		166,0	92,44	-11,26	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,0	92,44	-14,25	29,25
Optical Cable	S32	Y		11,8	92,44	-15,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,63	-38,26	6,00
Electr. Cable	W3	Y		25,8	62,17	-16,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-16,57	6,18
Oil, C - EXPORT Riser 10" RO-03	W5	Y		144,0	53,59	-16,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,20	-16,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		198,2	48,77	-36,26	6,00
Connected Risers	0			3051,6	66,26	2,77	15,16

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,56	-24,00	40,92
Production Warehouse	SD-02	20%	10,3	86,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,20	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,20	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,6	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	9,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	40,28	9,85	37,88
Mech Store 1	TT-03	25%	10,8	86,40	-31,10	37,58
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,07	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	86,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	66,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,27	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,82	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	78,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,9	65,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,80	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,99
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,8	55,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	55,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,3	55,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	0,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

CÓPIA FIEL DO DOCUMENTO ORIGINAL

NOBLE DENTON

Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft
Stage 2 - Draft = 21.0m

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	20%	180	6,78	-30,71	1,42	0,005	0,014
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				9236	35,34	1,03	5,35	0,01	0,03

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	9236,2	35,3	1,0	5,35	0,008	0,032
Displacement	**54912,4**	**57,073**	**-0,010**	**22,58**	**0,013**	**0,045**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	21,0 m
LCB (from FP)	57,07 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,61 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	30,47 m
MCTC	23,28 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

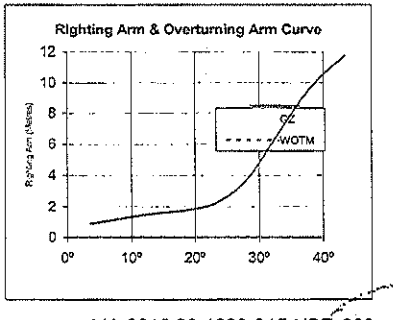
Draft Aft Perpendicular (INPUT)	21,07 m
Heel about centreline (INPUT)	0,45°
Trim About aft perp. (INPUT)	-0,11°
Heel about centreline	0,261 m
Trim About aft perp.	-0,215 m
Mean Draft Aft	21,070 m
Mean Draft @ Amidships	20,963 m
Mean Draft Forward	20,855 m

Statical Stability

Corrected VCG =	22,59 m	22,62 m
KMT / KML =	26,90 m	27,40 m
GMT / GML =	4,31 m	4,78 m

Stability Margin

Allowable VCG =	26,60 m
Stability Margin =	3,98 m



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Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft

Summary Breakdown of Deadw... ...t Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8p	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1040,3	40,36	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,6	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,6	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,95	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,95	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,66	35,81	0,000	0,000
Fuel Oil	0			2383,0	59,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,81	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,56	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,50	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	36,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,13	15,62	36,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,05	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	26,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,66	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	100%	0,900	15,0	89,68	9,95	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	0,10	40,89	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,0	78,49	26,31	0,38	0,000	0,000
W.I.L. ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L. ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Dosemtor Tower (Port)	G-51001	100%	1,000	37,9	85,08	-23,73	27,00	0,000	0,000
Dosemtor Tower (Stard)	G-52001	100%	1,000	37,9	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,90	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001S	0%	1,316	0,0	26,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	26,76	43,84	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	65,02	-5,30	52,51	0,000	0,000
FW Cooling ExensionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	56,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	75,22	8,44	40,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	0,78	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	467,8	92,29	-28,91	47,27	0,002	0,006
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-26,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,850	47,0	64,74	-16,71	10,61	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,8	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,5	89,68	9,95	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,8	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	100%	0,900	36,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	28,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,48	18,68	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	16,5	50,68	17,80	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,36	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	8,8	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,8	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122501	100%	0,975	14,5	62,88	30,50	45,56	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	96,94	22,68	40,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,8	36,38	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,57	0,000	0,000
Process Piping & Valves		100%	0,850	104,3	60,40	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	99,65	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	28,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,966	43,3	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y		163,5	24,34	-15,27	8,80
P-1-13	N4,N5,N6	Y		163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y		163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y		109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y		108,8	41,28	18,57	9,22
P-1-09	E3,E4,E5	Y		166,0	43,04	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,04	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,0	33,26	18,57	6,22
I-1-04	E17,E18	Y		108,8	37,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,8	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,7	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		109,0	92,44	-6,07	29,25
FUTURE (WI) F1/I1	S24,S25	Y		108,8	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y		166,0	92,44	-11,25	29,25
SPARE (RJG-513)	S29,S30,S31	Y		166,0	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	Y		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y		150,9	71,03	-38,29	6,00
Elect. Cable	W3	Y		28,6	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y		72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y		190,2	48,77	-36,29	6,00
Connected Risers	0			5051,5	65,78	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	86,00	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-10,02	41,12
Open Store	SD-04	0%	0,0	68,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	6,48	40,02
Dry Store 2	SD-06	25%	11,5	37,21	13,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,0	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,0	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,0	88,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,0	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,0	91,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,0	25,28	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	8P	337	63,0	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,0	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,0	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,0	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,0	88,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,0	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,0	25,28	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,0	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,0	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,0	21,73	33,48	13,72
Chain Onboard	0	5392	1921,0	56,30	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	26,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	86,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	86,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	80%	8,0	63,51	9,95	37,88
Pump Store Fwd	TT-02	80%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-25,86	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	99,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-6,10	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,89	-2,79	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		166,3	76,64	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	85,89	8,51	43,67
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,67
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,67
Crew & Stores @ MD	0		42,9	51,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-39,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	26,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft
Stage 1 - Draft = 22.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56503,2**	**57,048**	**-0,025**	**22,11**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,03 m
MCTC	25,17 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

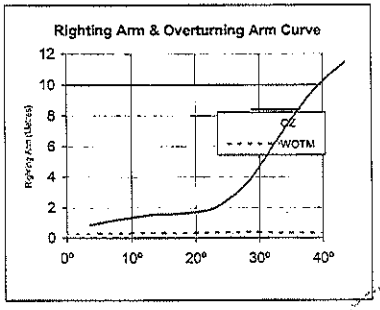
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,12 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,68 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m



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Loading Condition: Deballast from Maximum Operating Draft to Fairlead Inspection Draft

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	46,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,38	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,38	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	29,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	51,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	51,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	97,81	-15,82	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,98	39,58	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,60	-17,44	33,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,16	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,960	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,960	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	84,85	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	29,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,95	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo "C"	UO-122306	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo "B"	UO-122305	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo "A"	UO-122304	100%	0,900	15,0	89,71	-9,45	49,25	0,000	0,000
Lub Oils	0			66,2	84,60	3,10	40,59	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,48	-26,31	0,36	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,36	0,000	0,000
W.I.L.ing Drain Tank	P	60%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L.ing Drain Tank	S	50%	1,000	1,4	77,10	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-5140D1	100%	0,870	1,0	54,39	-12,36	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	78,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	78,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,8	97,99	-0,11	37,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,0	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-18,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	26,78	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	03,02	-5,36	32,01	0,000	0,000
FW Cooling ExansionTanks	T55102	100%	1,000	0,5	84,07	-6,20	52,01	0,000	0,000
Oily Water Separators	V-56201/V-56202	100%	0,900	1,4	80,77	0,00	20,80	0,000	0,000
Glycol Sump Tank	TQ-123301	60%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	56,82	6,26	42,06	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	407,8	92,29	-28,51	47,27	0,002	0,000
Oil Separation - Train B	UO-122302	100%	0,850	407,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,40	0,000	0,000
Production Caisson	TD-533601	100%	0,960	47,9	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122305	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-9,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UO-582503	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-582501-02	100%	0,900	20,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-582502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-582501-01	100%	0,900	16,5	50,08	17,60	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	100%	0,900	1,7	61,59	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,835	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	0,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-50212	100%	0,900	10,6	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,86	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,06	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,06	38,58	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	83,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	66,04	22,68	48,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/D/C	100%	1,025	58,9	58,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,850	104,3	80,46	-0,54	48,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	58,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,61	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,905	43,3	31,61	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,850	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,850	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,850	8,0	79,28	2,05	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1967,0	76,65	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,5	24,34	-15,27	8,80
P-1-16	N4,N5,N6	Y	163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	6,50
I-1-01	E1,E2	Y	166,6	41,26	18,57	6,22
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	48,64	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,04	18,57	6,32
I-1-03	E15,E16	Y	166,6	55,26	18,57	6,22
I-1-04	C17,E18	Y	166,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	166,6	92,44	15,13	29,25
P-1-00	S3,S4,S5	Y	166,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,00	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y	51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,00	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	166,6	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	Y	166,6	92,44	-9,87	29,25
SPARE (F1 / LOC H1)	S26,S27,S28	Y	166,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y	166,0	92,44	-14,25	29,25
Optical Cable	S32	Y	11,6	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,0	71,63	-36,29	6,00
Electr. Cable	W3	Y	25,8	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,9	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	196,2	48,77	-30,29	6,00
Connected Risers	0		5051,8	68,26	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	10,0	84,58	-24,00	40,52
Production Warehouse	SD-02	20%	10,3	88,86	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	99,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,32	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	3P	337	63,0	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	5P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 8)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 6)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,0	81,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,32	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,0	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	50,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	61,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	105,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,64	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	83,51	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,28	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,0	88,61	24,15	37,58
Production Warehouse	TT-07	50%	31,4	80,51	24,00	37,58
Store	TT-08	5%	4,1	62,90	31,44	37,88
Store	TT-09	5%	3,0	60,19	-5,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,97	22,62	37,58
Instrumentation Workshop	TT-15	10%	5,1	73,19	23,30	37,58
Crew & Stores @TT	0		169,3	76,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	69,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,67
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,67
Crew & Stores @ MD	0		42,9	51,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	46,90
Tolo Tank Laydown	LO-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LO-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LO-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LO-04	50%	29,6	05,42	0,43	43,00
Compression B Laydown	LO-05	50%	28,3	98,44	13,43	43,00
Compression C Laydown	LO-06	50%	31,9	99,44	30,80	43,00
Turbine A Laydown	LO-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LO-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LO-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LO-10	0%	0,0	100,05	-10,00	36,58
Multipurpose Court	LO-11	50%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		296,7	32,67	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

COPIA FIEL DEL ORIGINAL

De-Ballast from Operating Draft (22.0m) to Fairlead Inspection Draft (18.0m)

NOBLE DENTON

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Operating Condition	Tanks as per plan		22,00	22,00	22,00	0,00	0,00
Stage 2	2P	20%					
	20S	1%					
	17P	1%	21,07	20,96	20,86	0,26	-0,22
Stage 3	2P	1%					
	2S	76%					
	6S	5%					
	18P	4%					
	18S	41%	20,00	20,00	20,00	0,00	0,00
Stage 4	6S	1%					
	7P	62%					
	18P	1%					
	18S	1%	19,61	19,69	19,77	0,50	0,16

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Stage 5	11P	1%					
	11S	1%					
	13P	1%					
	13S	5%	18,00	18,00	18,00	0,00	0,00
Stage 6							

Notes:
1. SW Density assumed 1.025
2. Correction at end of sequence to be made to tanks 5P, 5S, 17P, 17S for level trim
3. -ve trim is trim by the stern

SUMMARY OF BALLASTING SEQUENCE
BALLASTING FROM TRANSIT DRAFT (11.0M) TO SURVIVAL DRAFT (18.0M)

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Transit Condition Stage 1							
Stage 2							
Stage 3							
Stage 4							
Stage 5							

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Stage 6							
Stage 7							
Stage 8							

Notes:
1. SW Density assumed 1.025
2. Correction at end of sequence to be made to tanks 5P, 5S, 17P, 17S for level trim
3. -ve trim is trim by the stern

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NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	47%	252	28,19	31,74	1,78	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	1%	6	26,94	36,18	0,07	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				10827	38,40	0,80	5,42	0,01	0,06

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	5051,6	66,3	2,8	15,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	10827,1	38,4	0,8	5,42	0,007	0,055
Displacement	**56503,2**	**57,048**	**-0,025**	**22,11**	**0,012**	**0,069**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,03 m
MCTC	25,17 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

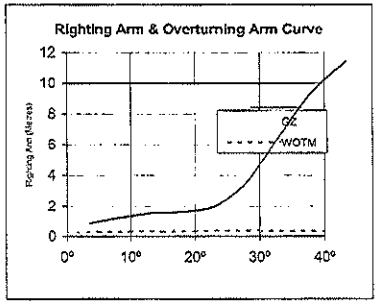
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,12 m	22,18 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,68 m	5,02 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,86 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	8S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,9	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	586,3	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,04	-17,79	35,01	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,61	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,9	97,01	-15,02	35,61	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,61	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,7	76,08	-3,56	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,65	-22,04	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,65	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			98,2	86,90	6,10	40,50	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.L.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,0	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,0	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	84,39	-12,59	53,00	0,000	0,000
Air Column Separator Tank	N1P	100%	1,000	13,8	79,72	-26,29	35,10	0,000	0,000
Air Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,69	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd cimn p-tk	T65001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd cimn p-tk	T65001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd cimn p-tk	T65001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd cimn p-tk	T65001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A55001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A55002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T55305	100%	0,870	0,2	21,86	26,76	43,84	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	03,02	-5,30	52,01	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	84,97	-9,20	52,91	0,000	0,000
Oily Water Separators	V-65201/V-65202	100%	0,900	1,4	80,77	0,00	25,80	0,000	0,000
Glycol Sump Tank	TO-123301	50%	1,000	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533005	50%	1,000	8,0	78,22	6,44	48,47	0,000	0,000
Non Structural Tanks	0			30,1	58,62	0,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122501	100%	0,850	467,0	82,20	-26,31	47,27	0,002	0,000
Oil Separation - Train B	UO-122502	100%	0,850	467,4	82,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	78,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TO-533601	100%	0,900	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	100%	0,900	38,5	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	100%	0,900	29,4	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	100%	0,900	19,2	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	100%	0,900	18,5	50,08	17,90	37,52	0,000	0,000
Chemical Inj'n Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Maitix Separator	V-65212	100%	0,900	10,6	59,51	-13,30	43,82	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,080	13,3	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,080	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,88	30,60	45,96	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Coester Comp Process Pkg	A30003	100%	1,000	8,4	96,04	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	100%	1,025	59,0	56,39	5,55	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,860	104,3	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,80	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,3	31,31	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122303	100%	0,650	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,650	8,0	79,28	16,55	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,650	8,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	56,39	0,00	43,00	0,000	0,000
Process Content				1667,0	78,65	-11,55	43,74	0,004	0,013

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	Y	163,3	24,34	-12,27	8,80
P-1-16	N4,N5,N6	Y	163,5	24,34	-12,27	8,80
P-1-08	N7,N8,N9	Y	163,5	24,34	14,75	8,80
FUTURE	N10,N11	Y	109,7	24,34	17,37	0,50
I-1-01	E1,E2	Y	166,6	41,28	18,57	6,22
P-1-09	E3,E4,E5	Y	166,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	Y	166,0	46,04	18,57	6,32
LOC A	E9,E10,E11	Y	166,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	Y	166,0	52,54	18,57	6,32
I-1-03	E15,E16	Y	166,6	55,26	18,57	6,22
I-1-04	E17,E18	Y	166,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y	166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y	166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y	166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y	166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y	166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y	166,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y	166,9	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y	166,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y	166,9	92,44	6,75	29,25
P-1-05 (M/Fld) Riser 6"	S12	Y	93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y	93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y	93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y	14,4	92,44	1,30	29,25
Service Manifold Riser 4"	S16	Y	51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y	21,1	92,44	-0,50	29,26
Gas Lift Riser 6"	S18	Y	72,3	92,44	-1,90	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y	93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y	93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y	93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y	166,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y	166,6	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	Y	166,9	92,44	-11,25	29,25
SPARE (RJS-913)	S29,S30,S31	Y	166,0	92,44	-14,25	29,25
Optical Cable	S32	Y	11,8	92,44	-16,00	29,25
SPARE	W1	N	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	150,0	71,63	-36,29	6,00
Elecir. Cable	W3	Y	25,8	92,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	91,17	-18,37	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,0	53,58	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	198,2	48,77	-36,29	6,00
Connected Risers	0		5051,8	66,25	2,77	15,15

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	94,58	-24,00	40,62
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	89,73	-16,02	41,12
Open Store	SD-04	0%	0,0	00,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	65,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	85,47	-31,12	10,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	10,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Sbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Sbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Sbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	10,19
Chain Locker - Sbd Fwd (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Sbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Sbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Sbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	10,19
Chain Locker - Sbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,8	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	99%	8,0	93,91	9,85	37,88
Pump Store Fwd	TT-02	99%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,58
Production Warehouse	TT-06	60%	30,9	88,61	24,15	37,58
Production Warehouse	TT-07	60%	31,4	90,51	24,00	37,58
Store	TT-08	5%	4,1	02,90	31,64	37,88
Store	TT-09	5%	3,0	09,19	-8,33	37,88
Electrical Workshop	TT-10	50%	16,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	6,2	76,97	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,88	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,97	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		160,3	78,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,6	85,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	61,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-5,62	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	39,56
Multipurpose Court	LD-11	60%	127,2	30,37	1,20	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,71	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weights - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO ORIGINAL CONTROLADO

Petrobras 36 - Ro' 'dor Field Development
Operations Manua. - Volume 7
Loading Condition: Installation of 2 SCR, Port, Aft & Starboard Flexible Risers
Full Production

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	16%	119	16,71	-30,88	0,68	0,004	0,008
SW Ballast 3S	728,7	1,025	12%	86	16,71	30,88	0,68	0,004	0,008
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	38%	205	28,19	-31,74	1,28	0,003	0,017
SW Ballast 6S	523,9	1,025	66%	356	28,19	31,74	3,00	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	20%	112	26,94	36,18	1,24	0,001	0,011
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	31%	167	84,58	-31,74	0,94	0,003	0,017
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	92%	727	98,59	36,27	5,71	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				11427	37,66	0,74	5,19	0,02	0,10

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	4451,5	71,9	3,2	16,1	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	11427,2	37,7	0,7	5,19	0,020	0,099
Displacement	**56503,2**	**57,048**	**-0,025**	**22,03**	**0,025**	**0,112**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,50 m
MCTC	25,35 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

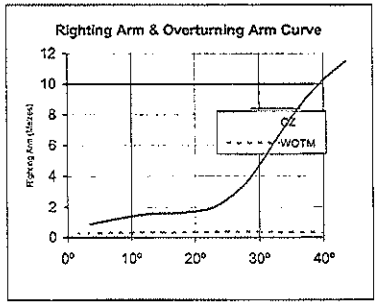
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,05 m	22,14 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,75 m	5,06 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,90 m



DOCUMENTO ORIGINAL

Summary Breakdown of Deadw...t Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,30	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,30	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	46,38	0,00	4,30	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	19,2	78,67	4,98	38,10	0,000	0,000
Potable Water	0			406,7	84,36	0,19	25,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	588,3	51,05	-23,91	4,65	0,000	0,000
FO Tank	10S	100%	0,960	588,3	51,05	23,91	4,65	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,76	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,6	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,0	97,61	-10,62	39,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	78,58	10,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,00	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	13,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	70,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,7	78,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,95	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,95	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,6	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,6	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,6	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,85	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,06	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	100%	0,900	15,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	100%	0,900	15,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	100%	0,900	15,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,90	8,10	40,58	0,000	0,000

Miscellannous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-20,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	20,31	0,38	0,000	0,000
W.L.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-914001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	70,72	-26,29	38,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	26,29	38,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,09	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A-	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Helifuel Refuel	AS8001	100%	1,000	7,9	34,85	-12,53	43,92	0,000	0,000
Helifuel Disp	AS8002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T5010	100%	0,870	0,2	21,85	26,76	49,84	0,000	0,000
FW Chem Dosing Tank	T53101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T53102	100%	1,000	0,5	64,07	-8,20	52,01	0,000	0,000
Oily Water Separators	V-66201/A/B/C	100%	0,000	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TC-123301	60%	1,060	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-53302	50%	1,000	8,0	76,22	8,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	54,82	6,28	42,08	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	100%	0,850	467,8	92,29	-28,51	47,27	0,002	0,005
Oil Separation - Train B	UO-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UO-122303	100%	0,850	76,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,000	47,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-082503	100%	0,900	38,5	99,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-082501-02	100%	0,900	28,4	91,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-082502	100%	0,900	19,2	54,45	18,88	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-082501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Inje Package (Water Inj)	A42001	100%	0,900	1,7	91,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	6,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,5	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	100%	1,060	13,3	57,13	10,93	45,36	0,000	0,000
TEG Contactor Towers	UO-123301	100%	1,060	8,3	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122501	100%	0,975	14,5	62,88	30,50	46,98	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,88	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	100%	1,000	0,4	97,03	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	100%	0,820	7,9	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	6,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	100%	1,025	8,2	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	D-511102A/B/C	100%	1,025	59,9	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	100%	1,025	40,2	74,40	0,00	17,87	0,000	0,000
Process Piping & Valves		100%	0,000	104,3	60,46	-4,64	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	99,66	-21,50	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	100%	1,000	26,7	29,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	100%	0,965	43,3	31,91	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	100%	0,850	8,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	100%	0,850	8,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	100%	0,850	8,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	49,1	50,39	0,00	43,00	0,000	0,000
Process Content				1697,9	75,66	-11,65	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N		0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N		0,0	24,34	14,73	8,80
FUTURE	N10,N11	N		0,0	24,34	17,37	6,50
I-1-01	E1,E2	Y		166,0	41,26	18,57	6,32
P-1-09	E3,E4,E5	Y		166,0	43,04	18,57	6,32
P-1-13	E6,E7,E8	Y		166,0	46,64	18,57	6,32
LOC A	E9,E10,E11	Y		166,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	Y		166,0	52,64	18,57	6,32
I-1-03	E15,E16	Y		108,6	55,28	18,57	6,22
I-1-04	C17,E18	Y		108,6	57,26	18,57	6,22
P-1-07	E19,E20,E21	Y		166,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	Y		166,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	Y		166,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	Y		166,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	Y		166,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	20,25
P-1-05	S3,S4,S5	Y		166,0	92,44	12,75	20,25
P-1-11	S6,S7,S8	Y		166,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		91,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		211,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (Wt) F1/I1	S24,S25	Y		108,6	92,44	-9,87	29,25
SPARE (R1 / LOC H))	S26,S27,S28	Y		166,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	N		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RC-02	RC-2	Y		150,0	71,63	-36,20	6,00
Electr. Cable	W3	Y		25,8	62,17	-16,57	6,50
FUEL GAS - FSO Riser 6" RC-01	W4	Y		72,3	61,17	-16,57	6,18
OIL C - EXPORT Riser 10" RC-03	W5	Y		144,9	53,59	-16,57	6,50
OIL B - EXPORT Riser 10" RC-02	W6	Y		144,9	52,29	-16,57	6,50
SCR - OIL EXPORT Riser 10" RC-01	RO-1	Y		198,2	48,77	-36,20	6,00
Connected Risers	0			4451,5	71,92	3,19	16,06

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	64,58	-24,00	40,52
Production Warehouse	SD-02	20%	10,3	88,89	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,82	41,12
Open Store	SD-04	0%	0,0	89,43	-9,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,0	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	20,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	9,70

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,76	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,92	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,92	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,20

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	95%	9,0	93,51	0,65	37,88
Pump Store Fwd	TT-02	99%	8,9	49,26	9,65	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,9	85,97	-23,86	37,88
Production Warehouse	TT-06	60%	30,9	88,61	24,10	37,56
Production Warehouse	TT-07	60%	31,4	80,51	24,00	37,56
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,10	-9,33	37,88
Electrical Workshop	TT-10	90%	16,3	75,27	-8,16	37,76
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,76
Hydraulic Workshop	TT-12	20%	6,2	75,37	4,63	37,06
Central Caisson Laydown Area	TT-13	10%	0,5	61,89	-2,75	37,56
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,56
Instrumentation Workshop	TT-15	10%	6,1	73,10	23,30	37,56
Crew & Stores @ TT	0		109,3	76,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,0	65,80	8,51	43,87
Deck Locker	MD-02	30%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,3	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	46,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	39,9	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	65,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	65,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	65,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-10,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

DOCUMENTO ORIGINAL

Petrobras 36 - Ro ›dor Field Development
Operations Manua. - Volume 7
Loading Condition: Installation of 2 SCR, Port & Aft Flexible Risers
Full Production

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	2,45	0,004	0,008
SW Ballast 3S	728,7	1,025	40%	298	16,71	30,88	2,45	0,004	0,008
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	67%	360	28,19	-31,74	3,05	0,003	0,017
SW Ballast 6S	523,9	1,025	99%	530	28,19	31,74	5,19	0,003	0,017
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	531	84,58	-31,74	5,19	0,003	0,017
SW Ballast 17S	523,9	1,025	99%	530	84,58	31,74	5,19	0,003	0,017
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	776	98,59	36,27	6,08	0,002	0,021
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				13247	40,27	3,19	5,42	0,02	0,11

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	1049,3	40,4	0,0	4,4	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	2383,0	56,7	0,0	5,1	0,000	0,000
Diesel Oil	381,2	76,1	-3,5	39,0	0,000	0,000
Lub Oils	68,2	84,9	6,1	40,6	0,000	0,000
Miscellaneous Tanks	112,5	83,0	-0,1	27,7	0,000	0,001
Non Structural Tanks	32,1	56,8	6,3	42,1	0,000	0,000
Crew & Stores @TT	169,3	78,8	4,3	37,7	0,000	0,000
Crew & Stores @ SD	104,1	63,1	0,2	41,0	0,000	0,000
Crew & Stores @ MD	42,9	51,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	1667,0	78,6	-11,7	43,7	0,004	0,013
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	2631,7	82,5	-7,5	22,8	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	13247,0	40,3	3,2	5,42	0,022	0,105
Displacement	**56503,2**	**57,048**	**-0,025**	**22,05**	**0,027**	**0,118**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	34,36 m
MCTC	25,22 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

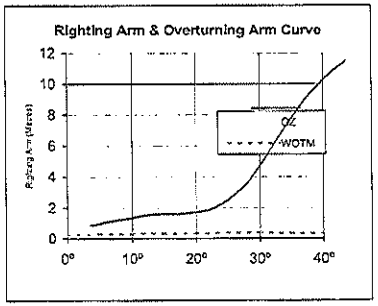
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	22,07 m	22,17 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	4,73 m	5,03 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	0,87 m



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Summary Breakdown of Deadw... Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	100%	1,000	276,2	40,25	-23,31	4,40	0,000	0,000
Drill Water Tanks	6S	100%	1,000	276,2	40,25	23,31	4,40	0,000	0,000
Drill Water Tanks	9P	100%	1,000	248,5	40,53	-31,35	4,37	0,000	0,000
Drill Water Tanks	9S	100%	1,000	248,5	40,53	31,35	4,37	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			1049,3	40,38	0,00	4,39	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,00	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,00	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	36,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	100%	0,960	580,9	51,05	-23,91	4,66	0,000	0,000
FO Tank	10S	100%	0,960	586,3	51,05	23,91	4,66	0,000	0,000
FO Tank	12P	100%	0,960	589,5	61,72	-23,86	4,63	0,000	0,000
FO Tank	12S	100%	0,960	589,5	61,72	23,92	4,63	0,000	0,000
FO Overflow	P	100%	0,960	16,4	78,94	-17,79	35,81	0,000	0,000
FO Overflow	S	100%	0,960	15,1	78,87	22,86	35,81	0,000	0,000
Fuel Oil	0			2383,0	56,70	0,04	5,06	0,000	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	100%	0,870	3,6	67,61	-15,62	35,81	0,000	0,000
DO Sludge	N1S	100%	0,870	3,6	76,58	19,10	35,81	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,32	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,69	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	36,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			381,2	76,08	-3,55	39,04	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	50%	1,000	9,0	80,72	-24,55	23,24	0,000	0,000
Waste Oil	N1S	50%	1,000	9,8	80,72	24,55	23,24	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,85	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	33,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,06	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,80	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122306	100%	0,900	13,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122305	100%	0,900	13,0	89,66	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	100%	0,900	13,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			68,2	84,00	6,10	40,64	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	50%	1,000	2,6	78,49	-26,31	0,38	0,000	0,000
Bilge Holding Tank	S	50%	1,000	2,6	78,49	26,31	0,38	0,000	0,000
W.I.L ring Drain Tank	P	50%	1,000	1,4	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	50%	1,000	1,4	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	100%	1,000	37,9	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	100%	1,000	37,9	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator OD	GE-514001	100%	0,870	1,0	54,39	-12,56	53,06	0,000	0,000
Aft Column Separator Tank	N1P	100%	1,000	13,8	79,72	-29,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	100%	1,000	13,8	79,72	29,29	35,10	0,000	0,000
Miscellaneous Tanks	0			112,5	82,09	-0,11	27,73	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hellifuel Refuel	AS8001	100%	1,000	7,9	34,85	-12,53	43,92	0,000	0,000
Hellifuel Disp	AS8002	100%	1,000	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator OD Day Tank	T53005	100%	0,870	0,2	21,00	20,76	43,94	0,000	0,000
FW Chem Dosing Tank	T65101	100%	1,000	2,0	63,02	-5,30	52,01	0,000	0,000
FW Cooling ExansionTank	T65102	100%	1,000	0,5	64,97	-6,20	52,01	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TG-123301	50%	1,080	12,1	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	50%	1,000	8,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			32,1	36,62	6,28	42,08	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	100%	0,850	467,8	92,29	-20,51	47,27	0,002	0,005
Oil Separation - Train B	UQ-122302	100%	0,850	467,4	92,28	-18,53	47,34	0,002	0,007
Oil Separation - Heating	UQ-122303	100%	0,850	76,7	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	100%	0,900	47,0	64,74	-16,71	16,81	0,000	0,000
Turbine Cooling Water	UQ-122308	100%	1,000	5,6	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	100%	1,000	5,6	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	100%	1,000	5,6	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682509	100%	0,900	38,5	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	100%	0,900	28,4	91,76	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	100%	0,900	19,2	54,46	18,68	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	100%	0,900	16,5	50,68	17,60	37,52	0,000	0,000
Chemical Inj Package (Water Inj)	A42001	100%	0,900	1,7	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	100%	0,900	1,5	55,55	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	100%	0,935	19,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	100%	1,000	0,8	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	100%	0,900	10,6	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	100%	1,080	13,3	57,13	10,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	100%	1,080	8,5	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	100%	0,975	14,5	62,86	30,60	45,06	0,000	0,000
Drains Treatment Package	A45001	100%	1,000	14,4	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	100%	1,000	9,4	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	100%	0,820	7,9	63,87	-16,30	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	100%	1,000	8,4	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	100%	1,025	8,2	32,08	15,20	44,42	0,000	0,000
Seawater Supply Pumps conionts	B-511102A/B/C	100%	1,025	59,9	56,36	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	100%	1,025	49,2	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		100%	0,800	104,3	60,40	-0,04	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	100%	0,820	8,4	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	100%	1,000	20,7	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	100%	0,935	43,3	31,61	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	100%	0,650	8,0	79,26	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	100%	0,650	8,0	79,26	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	100%	0,650	8,0	79,26	2,05	48,86	0,000	0,000
Industrial Water System Piping		100%	1,000	48,1	58,39	0,00	43,00	0,000	0,000
Process Content				1867,0	76,05	-11,69	43,74	0,004	0,013

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N		0,0	24,34	-15,27	6,80
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	6,80
P-1-08	N7,N8,N9	N		0,0	24,34	14,75	6,80
FUTURE	N10,N11	N		0,0	24,34	17,37	6,50
I-1-01	E1,E2	N		0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N		0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N		0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N		0,0	49,84	18,57	6,32
P-1-04	E12,E13,E14	N		0,0	52,64	18,57	6,32
I-1-03	E15,E16	N		0,0	55,26	18,57	6,22
I-1-04	E17,E18	N		0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N		0,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	N		0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N		0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N		0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,64	18,57	6,32
I-1-05	S1,S2	Y		108,6	92,44	15,13	29,25
P-1-05	S3,S4,S5	Y		166,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	Y		166,9	92,44	9,75	29,25
P-1-17	S9,S10,S11	Y		166,9	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	Y		93,8	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	Y		93,8	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	Y		93,8	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	Y		14,4	92,44	1,50	29,25
Service Manifold Riser 4"	S16	Y		51,9	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	Y		21,1	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	Y		72,3	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	Y		93,8	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	Y		93,8	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	Y		93,8	92,44	-5,00	29,25
I-1-02	S22,S23	Y		108,6	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	Y		108,6	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	Y		166,9	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	Y		166,9	92,44	-14,25	29,25
Optical Cable	S32	Y		11,6	92,44	-16,00	29,25
SPARE	W1	N		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RO-02	RO-2	Y		150,0	71,63	-36,29	6,00
Electr. Cable	W3	Y		25,8	62,17	-18,57	5,50
FUEL GAS - FSO Riser 6" RO-01	W4	Y		72,3	61,17	-18,57	6,18
Oil, G - EXPORT Riser 10" RO-03	W5	Y		144,9	53,59	-18,57	5,50
Oil, B - EXPORT Riser 10" RO-02	W6	Y		144,9	52,29	-18,57	6,50
SCR - Oil, EXPORT Riser 10" RO-01	RO-1	Y		198,2	46,77	-36,29	6,00
Connected Risers	0			2631,7	82,45	-7,45	22,90

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	84,98	-24,00	40,02
Production Warehouse	SD-02	20%	10,3	88,60	24,00	41,12
Warehouse	SD-03	20%	30,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	25%	14,9	40,21	8,48	40,52
Dry Store 2	SD-06	25%	11,5	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,9	45,72	0,00	41,82
Crew & Stores @ SD	0		104,1	63,11	0,25	41,01

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,22	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,95	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,95	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,95	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,95	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,9	56,39	0,00	9,79

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,93	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	108,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	108,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,85	1,54	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	95%	8,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	95%	8,0	49,26	9,85	37,88
Mech Store 1	TT-03	25%	10,6	88,40	-31,10	37,88
Mech Store 2	TT-04	30%	9,3	81,40	-32,18	37,88
Mech Workshop	TT-05	20%	19,0	85,97	-23,80	37,56
Production Warehouse	TT-06	80%	39,0	88,61	24,15	37,56
Production Warehouse	TT-07	80%	31,4	80,51	24,00	37,56
Store	TT-08	5%	4,1	82,80	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,23	37,88
Electrical Workshop	TT-10	50%	10,3	75,27	-8,16	37,78
Electrical Store	TT-11	30%	13,1	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	20%	8,2	75,37	4,83	37,66
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,56
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,56
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,56
Crew & Stores @TT	0		160,3	78,84	4,33	37,69

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	20%	5,5	65,89	8,51	43,87
Deck Locker	MD-02	35%	9,7	48,89	8,51	43,87
Marine Equipment Storage	MD-03	60%	27,6	48,89	8,51	43,87
Crew & Stores @ MD	0		42,9	51,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-36,60	46,00
Toto Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	38,27	-11,26	43,00
Compression A Laydown	LD-04	80%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	30%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,84	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

PETROBRAS
CÓPIA FIEL DO DOCUMENTO ORIGINAL

Loading Condition: Installation of 2 SCR & Portside Risers (Production not Started)
SCR's are considered dry, flexible risers are considered full of water

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	6,10	0,000	0,000
SW Ballast 3S	728,7	1,025	99%	739	16,71	30,88	6,10	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	99%	532	28,19	-31,74	5,21	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	74%	728	103,87	-24,48	5,12	0,008	0,073
SW Ballast 21S	963,7	1,025	99%	978	103,87	24,48	6,63	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	52%	525	28,00	-26,33	11,29	0,010	0,010
SW Ballast 24S	980,8	1,025	98%	987	28,00	26,33	14,24	0,010	0,010
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	28%	283	84,77	-26,33	10,24	0,030	0,034
SW Ballast 26S	980,8	1,025	42%	419	84,77	26,33	10,77	0,013	0,014
SW Ballast Total				20693	50.74	1.05	6.04	0,07	0,14

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,000	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	651,9	57,2	-25,7	6,3	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	20693,3	50,74	1,05	6,04	0,070	0,140
Displacement	**56503,2**	**57,048**	**-0,025**	**20,174**	**0,072**	**0,141**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	47,65 m
MCTC	34,49 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

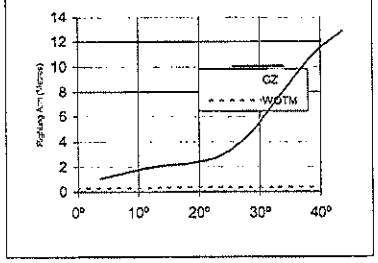
Statical Stability

Corrected VCG =	20,25 m	20,32 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	6,55 m	6,88 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	2,72 m

Righting Arm & Overturning Arm Curve



Summary Breakdown of Deadw... Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,11	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,96	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	38,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	76,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,01	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	76,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,92	-13,80	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,00	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSetti	N4S	100%	0,870	73,5	70,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,0	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,0	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,85	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	46,00	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,07	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	0%	0,900	0,0	69,67	24,35	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122305	0%	0,900	0,0	69,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	69,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,84	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,05	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,05	0,000	0,000
W.L.L ing Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ing Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,06	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,06	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	33,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	65,77	-41,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Reluol	A58001	100%	1,000	7,0	34,85	-12,53	43,02	0,000	0,000
Helifuel Dep	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T58305	100%	0,870	0,2	21,50	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-5,30	52,91	0,000	0,000
FW Cooling ExcursionTank	T55102	100%	1,000	0,5	84,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	20,60	0,000	0,000
Glycol Sump Tank	TG-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533005	0%	1,000	0,0	70,22	0,44	40,47	0,000	0,000
Non Structural Tanks	0			12,1	45,86	-9,03	44,16	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,20	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-26,01	47,40	0,000	0,000
Production Caisson	TD-533601	0%	0,000	0,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,08	9,85	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	0%	0,900	0,0	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	50,68	17,80	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,76	0,000	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	92,86	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,98	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	93,87	-10,36	44,21	0,000	0,000
Deaster Comp Process Pkg	A30003	0%	1,000	0,0	86,94	22,68	40,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,06	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	36,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	50,03	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	20,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,05	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	58,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-09	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,32
P-1-09	E3,E4,E5	N	0,0	43,04	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,84	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,20	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,04	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-08 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,67	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,67	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	Y	132,0	71,83	-36,20	6,00
Electr. Cable	W3	Y	25,8	82,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	Y	72,3	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	Y	144,8	51,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	Y	144,9	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	Y	132,0	48,77	-36,20	6,00
Connected Risers	0		851,9	57,16	-25,75	6,26

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,52
Production Warehouse	SD-02	10%	5,2	88,00	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,52	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	16,0	45,72	0,00	41,62
Crew & Stores @ SD	0		68,1	61,83	-0,94	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	6P	337	63,9	86,47	-31,12	10,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	10,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	6S	337	63,9	86,47	31,12	10,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	10,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	5392	1021,8	56,99	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	39,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	39,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	39,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	39,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,92	39,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	39,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	39,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	39,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-39,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-39,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-39,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-39,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,92	-39,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-39,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-39,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-39,00	18,29
Vertical Mooring Forces	0		1727,2	57,86	1,54	18,20

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	93,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	91,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,13	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	98,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,80	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	75,19	23,30	37,58
Crew & Stores @TT	0		56,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	62,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,85	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	80%	29,5	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Coun	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Loading Condition: Mooring Installation Draft (18.0m)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	6,10	0,000	0,000
SW Ballast 3S	728,7	1,025	99%	739	16,71	30,88	6,10	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	28%	73	27,71	-22,82	0,43	0,007	0,029
SW Ballast 5S	256,6	1,025	21%	56	27,71	22,82	0,34	0,007	0,029
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	20%	195	103,87	-24,48	1,21	0,004	0,015
SW Ballast 21S	963,7	1,025	54%	536	103,87	24,48	3,71	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				16616	49,52	0,47	5,53	0,02	0,09

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	16616,0	49,52	0,47	5,53	0,021	0,088
Displacement	**50389,5**	**57,123**	**-0,023**	**21,324**	**0,024**	**0,089**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	40,54 m
MCTC	29,88 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

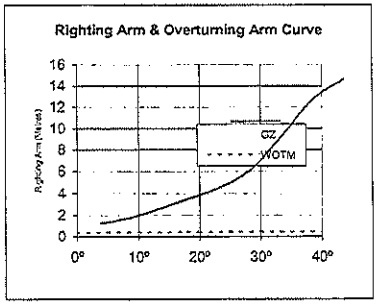
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	21,35 m	21,41 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	6,25 m	6,69 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,82 m



Summary Breakdown of Deadw...t Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	0%	1,000	0,0	40,25	-29,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	29,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,07	4,88	38,10	0,000	0,000
Potable Water	0			402,7	84,38	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,66	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,66	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,64	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,67	22,85	35,43	0,000	0,000
Fuel Oil	0			15,8	78,01	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	19,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-0,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,94	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,6	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,6	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122306	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122305	0%	0,900	0,0	89,66	0,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	89,71	-0,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Slop Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Slop Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,06	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,06	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	94,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-28,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	28,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-0,06	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hellfuel Reluel	A58001	100%	1,000	7,9	34,65	-12,53	43,92	0,000	0,000
Hellfuel Disp	A58002	100%	1,000	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,66	26,76	43,04	0,000	0,000
FW Chem Dosing Tank	T50101	100%	1,000	2,0	63,02	-8,30	52,01	0,000	0,000
FW Cooling ExpansionTank	T50102	100%	1,000	0,6	64,97	-0,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,000	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Surnp Tank	TQ-123301	0%	1,080	0,0	53,23	21,53	37,08	0,000	0,000
Tank Top Surnp Tank	V-53305	0%	1,000	0,0	76,22	0,44	49,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,28	28,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,40	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,66	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-0,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	0%	0,900	0,0	54,46	18,06	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	0%	0,900	0,0	50,68	17,60	37,32	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,60	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	0%	1,080	0,0	57,13	16,98	49,38	0,000	0,000
TEG Contactor Towers	UO-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,06	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,09	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	97,03	23,08	38,56	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A50003	0%	1,000	0,0	36,94	22,88	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	32,86	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-51110/A/B/C	0%	1,025	0,0	66,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UO-125101	0%	1,025	0,0	74,40	0,00	17,57	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	60,46	-0,64	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,965	0,0	31,81	23,90	46,50	0,000	0,000
Process Gas Module 'C'	UO-122309	0%	0,650	0,0	70,28	31,80	48,66	0,000	0,000
Process Gas Module 'B'	UO-122307	0%	0,650	0,0	70,28	16,85	48,66	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,650	0,0	70,28	2,06	48,66	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	8,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,04	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,20	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,03	-36,29	6,00
Elect. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	0,0	84,58	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	88,80	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		58,1	61,83	-0,64	41,06

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,32	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,06	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,32	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	28,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	59,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,83	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	93,51	9,85	37,68
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,68
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,68
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,68
Mech Workshop	TT-05	10%	10,0	85,97	-23,88	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,99	31,44	37,68
Store	TT-09	5%	3,0	69,19	-5,33	37,68
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,63	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,6	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,80	8,51	43,67
Dock Locker	MD-02	5%	1,4	48,80	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,80	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-39,80	48,80
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,62	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,56
Multipurpose Court	LD-11	80%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	62,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Loading Condition: Mooring Installation Draft (18.0m) - 8 Lines Connected & Tensioned

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	96%	720	16,71	-30,88	3,57	0,005	0,009
SW Ballast 3S	728,7	1,025	58%	430	16,71	30,88	3,57	0,005	0,009
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	28%	73	27,71	-22,82	0,43	0,007	0,029
SW Ballast 5S	256,6	1,025	21%	56	27,71	22,82	0,34	0,007	0,029
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	59%	437	96,07	-30,88	3,63	0,005	0,009
SW Ballast 19S	728,8	1,025	91%	681	96,07	30,88	5,63	0,005	0,009
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	20%	195	103,87	-24,48	1,21	0,004	0,015
SW Ballast 21S	963,7	1,025	54%	536	103,87	24,48	3,71	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				15926	49,15	0,40	5,13	0,04	0,12

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	861,1	57,8	1,7	18,3	-	-
Chain Onboard	1193,2	56,4	0,0	9,7	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	15926,2	49,15	0,40	5,13	0,041	0,123
Displacement	**50389,5**	**57,123**	**-0,023**	**21,401**	**0,044**	**0,125**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	39,91 m
MCTC	29,38 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

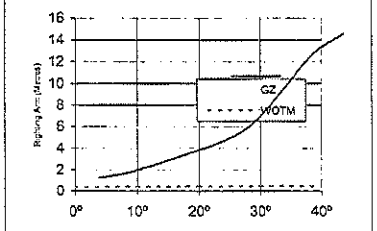
Statical Stability

Corrected VCG =	21,44 m	21,53 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	6,16 m	6,57 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,70 m

Righting Arm & Overturning Arm Curve



PETROBRAS DOCUMENTO CONTROLADO

Loading Condition: Mooring Installation Draft (18.0m) - 8 Lines Connected & Tensioned

Summary Breakdown of Deac. ght Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,6	84,58	29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,6	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	51,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	51,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,04	-17,76	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,66	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	87,81	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,66	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,00	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,00	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,3	82,01	15,02	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,16	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,67	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	29,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	81,04	30,67	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,80	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,6	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,6	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122306	0%	0,900	0,0	80,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UQ-122306	0%	0,900	0,0	80,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	0%	0,900	0,0	80,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,61	-1,82	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.H. ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.H. ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-S1001	0%	1,000	0,0	65,06	-23,73	27,50	0,000	0,000
Deaerator Tower (Stbd)	C-S2001	0%	1,000	0,0	65,06	23,73	27,50	0,000	0,000
Auxiliary Generator DO	GE-S14001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	70,72	-26,20	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	70,72	26,20	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	68,77	-4,06	25,62	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T06001A	0%	1,316	0,0	26,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T06001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,0	34,55	-12,53	43,02	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	29,91	-10,26	45,10	0,000	0,000
Incinerator DO Day Tank	T56005	100%	0,870	0,2	21,66	26,76	43,84	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	84,97	-8,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	20,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	0,44	40,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-9,03	44,15	0,000	0,000

Units are as follows: Weights - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	0%	0,000	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,000	0,0	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	60,88	17,00	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-S12501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-S12401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-60212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122501	0%	0,975	0,0	82,88	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,04	22,68	48,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,00	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	0-S11102A/B/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,850	0,0	60,46	0,54	44,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,80	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	20,81	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,20	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,04	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,04	18,57	6,32
I-1-03	E15,E16	N	0,0	55,28	18,57	6,22
I-1-04	E17,E18	N	0,0	57,28	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,04	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,04	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	82,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	82,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	82,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	82,44	5,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	82,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	82,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	82,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	82,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	82,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	82,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	82,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	82,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	82,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	82,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	82,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	N	0,0	82,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	82,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	82,44	-14,25	29,25
Optical Cable	S32	N	0,0	82,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,20	6,00
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	9,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,36	-24,00	40,62
Provision Warehouse	SD-02	10%	9,2	88,00	24,00	41,12
Warehouse	SD-03	10%	15,0	85,79	-15,02	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1bP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	6P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 8)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 6)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	6S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	6295	1193,2	56,39	0,00	9,80

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	100,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		861,1	57,84	1,98	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	83,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	48,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,16	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,01	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	68,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Control Caisson Laydown Area	TT-13	10%	0,0	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	8,1	73,19	23,30	37,58
Crew & Stores @ TT	0		65,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,67
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		294,7	37,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

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NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	4,77	0,005	0,009
SW Ballast 3S	728,7	1,025	77%	575	16,71	30,88	4,77	0,005	0,009
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	28%	73	27,71	-22,82	0,43	0,007	0,029
SW Ballast 5S	256,6	1,025	21%	56	27,71	22,82	0,34	0,007	0,029
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	78%	580	96,07	-30,88	4,80	0,005	0,009
SW Ballast 19S	728,8	1,025	96%	719	96,07	30,88	5,94	0,005	0,009
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	20%	195	103,87	-24,48	1,21	0,004	0,015
SW Ballast 21S	963,7	1,025	54%	536	103,87	24,48	3,71	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				16272	49,34	0,44	5,28	0,04	0,12

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	429,8	57,9	1,7	18,3	-	-
Chain Onboard	1278,9	56,4	0,0	10,1	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	16271,9	49,34	0,44	5,28	0,041	0,123
Displacement	**50389,5**	**57,123**	**-0,023**	**21,353**	**0,044**	**0,125**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	40,22 m
MCTC	29,59 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

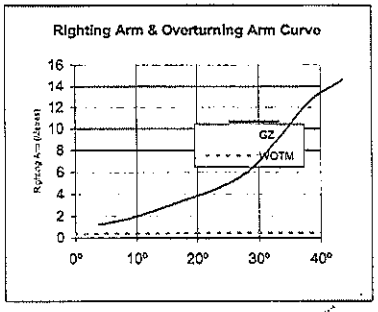
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	21,40 m	21,48 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	6,20 m	6,62 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,75 m



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Summary Breakdown of Dead... ght Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8p	0%	1,000	0,0	40,25	-29,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	29,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	29,99	25,60	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,60	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,96	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,16	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	31,05	-23,01	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	31,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,88	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,01	-10,02	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,16	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,60	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	70,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	70,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,95	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122306	0%	0,900	0,0	80,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122305	0%	0,900	0,0	80,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	80,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	66,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,46	-20,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	20,31	0,08	0,000	0,000
W.I.L.ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L.ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,38	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	78,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	78,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-6,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd dmn p4k	T05001A	0%	1,316	0,0	25,00	28,70	27,00	0,000	0,000
Fwd dmn p4k	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd dmn p4k	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd dmn p4k	T05001B	0%	1,316	0,0	25,00	-28,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,0	34,59	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,05	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	94,07	-0,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,56	-0,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Seperation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Seperation - Train B	UQ-122302	0%	0,850	0,0	92,28	28,53	47,34	0,000	0,000
Oil Seperation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,000	0,0	64,74	-10,71	19,51	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,65	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-882503	0%	0,900	0,0	58,48	13,14	44,88	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-882501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-882502	0%	0,900	0,0	54,46	18,68	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-882501-01	0%	0,900	0,0	50,68	17,80	37,32	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	0%	0,900	0,0	81,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	46,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,03	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,58	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	82,88	30,50	45,93	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,39	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,03	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	58,94	22,08	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	92,86	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/D/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		0%	0,850	0,0	60,40	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,935	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,850	0,0	70,28	31,85	46,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,850	0,0	79,28	16,85	46,83	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,850	0,0	79,29	2,00	46,88	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-09	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,84	18,57	6,32
LCC A	E9,E10,E11	N	0,0	49,54	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,28	18,57	6,22
I-1-04	E17,E18	N	0,0	57,28	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,84	18,57	6,32
P-1-16	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Culm. (M/Fld) Riser UM30"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UM012"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RC-02	RC-2	N	0,0	71,63	-36,20	6,00
Elecir. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RC-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,90	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	88,00	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	10%	0,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		65,1	61,83	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	91,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	3P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	26,31	-31,12	16,10
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	91,05	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	6748	1278,9	56,39	0,00	10,12

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		420,6	57,65	1,74	18,29

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	60,51	9,65	37,88
Pump Store Fwd	TT-02	10%	0,8	49,28	9,65	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,16	37,88
Mech Workshop	TT-05	10%	10,0	65,97	-23,86	37,88
Production Warehouse	TT-06	10%	5,1	86,61	24,15	37,88
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,88
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	66,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,88
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,9	37,97	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,98
Crew & Stores @TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,80	8,51	43,87
Dock Locker	MD-02	5%	1,4	48,80	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,29	43,00
Compression A Laydown	LD-04	50%	29,8	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	26,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	39,55
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		295,7	50,07	3,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

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CARGO CONTROL
MARITIMA

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	6,10	0,000	0,000
SW Ballast 3S	728,7	1,025	99%	739	16,71	30,88	6,10	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	99%	532	28,19	-31,74	5,21	0,000	0,000
SW Ballast 6S	523,9	1,025	99%	532	28,19	31,74	5,21	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	99%	978	103,87	-24,48	6,63	0,000	0,000
SW Ballast 21S	963,7	1,025	99%	978	103,87	24,48	6,63	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	92%	928	28,00	-26,33	13,84	0,010	0,010
SW Ballast 24S	980,8	1,025	98%	985	28,00	26,33	14,23	0,010	0,010
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	28%	283	84,77	-26,33	10,24	0,030	0,034
SW Ballast 26S	980,8	1,025	42%	420	84,77	26,33	10,77	0,012	0,013
SW Ballast Total				21345	50,94	0,23	6,43	0,06	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,000	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	21345,2	50,94	0,23	6,43	0,061	0,067
Displacement	**56503,2**	**57,048**	**-0,025**	**20,321**	**0,063**	**0,068**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	22,0 m
LCB (from FP)	57,05 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	8,96 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	46,64 m
MCTC	34,13 m
TPC	15,04 T/cm

Draft, Heel & Trim
(Input from Stability Software)

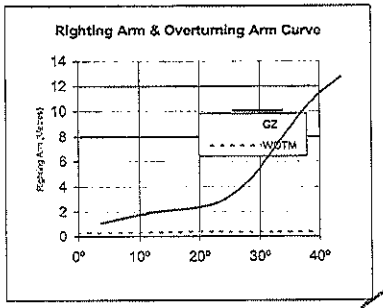
Draft Aft Perpendicular (INPUT)	22,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	22,000 m
Mean Draft @ Amidships	22,000 m
Mean Draft Forward	22,000 m

Statical Stability

Corrected VCG =	20,38 m	20,39 m
KMT / KML =	26,80 m	27,20 m
GMT / GML =	6,42 m	6,81 m

Stability Margin

Allowable VCG =	23,04 m
Stability Margin =	2,65 m



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Summary Breakdown of Dead... ght Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	0%	1,000	0,0	40,25	-29,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	29,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	64,56	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	64,56	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	13,2	78,87	4,66	38,10	0,000	0,000
Potable Water	0			402,7	64,36	0,19	28,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	51,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	51,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,56	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	57,01	-15,02	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	57,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,62	-13,99	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,000	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,000	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	76,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,87	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	33,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,93	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122306	0%	0,900	0,0	89,67	24,95	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122305	0%	0,900	0,0	89,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	68,81	-1,02	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.L.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,09	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,09	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-G14001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	70,72	-26,29	33,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	70,72	26,29	33,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-6,06	25,80	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,00	20,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,00	-20,70	27,00	0,000	0,000
Helifuel Refuel	AS8001	100%	1,000	7,8	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	AS8002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	25,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-0,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TG-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	84,74	-16,71	10,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-982503	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-982501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-982502	0%	0,900	0,0	54,46	18,93	37,38	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-982501-01	0%	0,900	0,0	50,68	17,90	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,000	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-56212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,35	0,000	0,000
TCG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,39	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	82,88	30,90	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,95	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,04	22,58	48,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,08	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	30,39	0,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,49	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,800	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	50,65	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	29,51	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,29	31,85	46,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	46,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	46,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-18	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,04	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,54	18,57	6,32
I-1-03	E15,E16	N	0,0	55,20	18,57	6,22
I-1-04	E17,E18	N	0,0	57,25	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,84	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-013)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,29	6,00
Elect. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	80%	19,0	64,56	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	68,60	24,00	41,12
Warehouse	SD-03	10%	15,0	65,73	-15,02	41,12
Open Store	SD-04	0%	0,0	59,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,04	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	9P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	337	63,9	81,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	0	3392	1021,9	56,30	0,00	#N/A

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,8	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,84	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,6	93,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,28	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	88,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	68,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-0,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,80	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,88	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,80	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,80	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,9	39,27	+11,26	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	109,05	-19,00	39,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		299,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Loading Condition: Mooring Installation Draft (18.0m) - 16 Lines Connected & Tensioned

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	76%	565	16,71	-30,88	2,05	0,005	0,007
SW Ballast 3S	728,7	1,025	34%	253	16,71	30,88	2,05	0,005	0,007
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	28%	73	27,71	-22,82	0,43	0,007	0,029
SW Ballast 5S	256,6	1,025	21%	56	27,71	22,82	0,34	0,007	0,029
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	35%	264	96,07	-30,88	2,15	0,005	0,009
SW Ballast 19S	728,8	1,025	66%	491	96,07	30,88	4,08	0,005	0,009
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	20%	195	103,87	-24,48	1,21	0,004	0,015
SW Ballast 21S	963,7	1,025	54%	536	103,87	24,48	3,71	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				15231	48,73	0,34	5,03	0,04	0,12

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	1727,2	57,8	1,5	18,3	-	-
Chain Onboard	1021,9	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	15231,5	48,73	0,34	5,03	0,040	0,120
Displacement	**50389,5**	**57,123**	**-0,023**	**21,581**	**0,043**	**0,121**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	38,75 m
MCTC	28,59 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

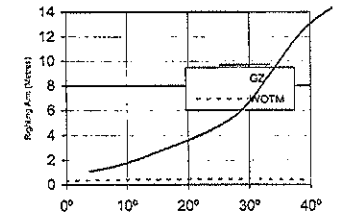
Statical Stability

Corrected VCG =	21,62 m	21,70 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	5,98 m	6,40 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,53 m

Righting Arm & Overturning Arm Curve



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	16,2	78,87	4,68	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,0	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,81	-15,02	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	67,81	10,10	0,00	0,000	0,000
DO Sotle	N1P	100%	0,870	166,3	74,02	-13,99	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSotl	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	78,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,16	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122306	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122305	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,81	-1,02	34,51	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	76,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	76,49	26,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,30	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-4,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,99	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,99	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,93	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,26	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,98	28,76	43,04	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	83,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	84,97	-0,20	52,91	0,000	0,000
Oily Water Separators	V-58201/V-58202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-122301	0%	1,080	0,0	55,23	21,53	37,98	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	6,44	48,47	0,000	0,000
Non Structural Tanks	0			12,1	43,58	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533001	0%	0,900	0,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	89,87	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,88	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-082003	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-082001-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Gas Water Chemical Injection	UO-082002	0%	0,900	0,0	54,46	18,65	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-082501-01	0%	0,900	0,0	50,68	17,80	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	40,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-60212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	0%	1,080	0,0	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	0%	1,080	0,0	57,44	12,87	45,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,06	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	97,93	23,08	38,95	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	93,84	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	32,88	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,850	0,0	60,40	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,60	44,78	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	26,01	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,650	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	58,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	6,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	6,80
P-1-06	N7,N8,N9	N	0,0	24,34	14,75	6,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,23	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,84	18,57	6,32
LQ-01	E9,E10,E11	N	0,0	49,94	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	32,64	18,57	6,32
I-1-03	E15,E16	N	0,0	35,26	18,57	6,22
I-1-04	E17,E18	N	0,0	37,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,04	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,84	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,54	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-08 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Colm. (M/Fld) Riser UM36"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UM312"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H1)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RC-02	RC-2	N	0,0	71,63	-36,29	6,00
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RC-01	W4	N	0,0	61,17	-18,57	6,16
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,92
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	19,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	19,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,04	41,08

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	337	63,9	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,9	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	337	63,9	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,25	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	337	63,9	21,73	-33,48	13,72
Chain Locker - Sbd Aft (Winch 13)	4aS	337	63,9	81,65	30,50	4,60
Chain Locker - Sbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Sbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Sbd Aft (Winch 16)	12S	337	63,9	91,05	33,48	13,72
Chain Locker - Sbd Fwd (Winch 10)	3aS	337	63,9	25,25	30,50	4,60
Chain Locker - Sbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Sbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Sbd Fwd (Winch 9)	11S	337	63,9	21,73	33,48	13,72
Chain Onboard	9	5392	1021,9	56,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	140	111,7	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,3	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,3	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	140	112,5	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	140	107,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	140	106,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	106,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	140	102,4	91,70	-38,00	18,29
Vertical Mooring Forces	0		1727,2	57,65	1,54	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	93,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,28	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	86,97	-22,06	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	99,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,75
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,79
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,88
Central Caisson Laydown Area	TT-13	10%	0,6	61,86	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,10	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	66,80	8,51	43,67
Deck Locker	MD-02	5%	1,4	48,69	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,69	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	46,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	39,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,29	43,00
Compression A Laydown	LD-04	50%	29,8	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		288,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	86%	643	16,71	-30,88	2,82	0,005	0,009
SW Ballast 3S	728,7	1,025	46%	341	16,71	30,88	2,82	0,005	0,009
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	28%	73	27,71	-22,82	0,43	0,007	0,029
SW Ballast 5S	256,6	1,025	21%	56	27,71	22,82	0,34	0,007	0,029
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	47%	351	96,07	-30,88	2,91	0,005	0,009
SW Ballast 19S	728,8	1,025	78%	586	96,07	30,88	4,85	0,005	0,009
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	20%	195	103,87	-24,48	1,21	0,004	0,015
SW Ballast 21S	963,7	1,025	54%	536	103,87	24,48	3,71	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				15579	48,94	0,37	5,05	0,04	0,12

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	1293,6	57,8	1,6	18,3	-	-
Chain Onboard	1107,6	56,4	0,0	10,1	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	15579,4	48,94	0,37	5,05	0,041	0,123
Displacement	**50389,5**	**57,123**	**-0,023**	**21,489**	**0,044**	**0,125**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	39,34 m
MCTC	28,98 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

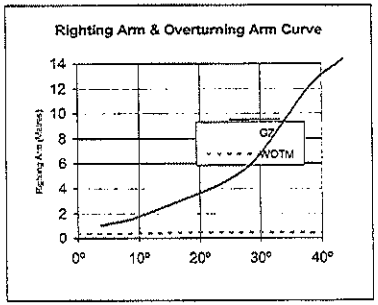
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	21,53 m	21,61 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	6,07 m	6,49 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,62 m



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Loading Condition: Mooring Installation Draft (18.0m) - 12 Lines Connected & Tensioned

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	169,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	169,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,18	29,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,84	-17,79	38,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,67	22,66	38,43	0,000	0,000
Fuel Oil	0			15,8	78,81	1,72	38,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N4P	100%	0,870	105,0	74,52	-10,80	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,0	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSetl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	45,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,36	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T05101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T05105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T05106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T05107	100%	0,900	0,3	23,33	28,10	40,67	0,000	0,000
Mooring Winch LO Storage	T05108	100%	0,900	0,3	91,04	30,07	40,98	0,000	0,000
Em. Gen. LO Storage	T05109	100%	0,900	0,5	46,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T05110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T05111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122306	0%	0,900	0,0	80,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122305	0%	0,900	0,0	89,08	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,8	85,61	-1,82	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,05	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,05	0,000	0,000
W.L.L ng Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Generator Tower (Port)	C-51001	0%	1,000	0,0	65,06	-23,73	27,60	0,000	0,000
Generator Tower (Starb)	C-52001	0%	1,000	0,0	65,06	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-S14001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-20,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	20,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-6,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	45,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,01	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T99305	100%	0,870	0,2	21,66	20,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling Exansion Tank	T55102	100%	1,000	0,5	64,07	-0,20	52,91	0,000	0,000
Oily Water Separators	V-68201/V-68202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	70,22	0,44	49,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-4,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,28	-26,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,83	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533801	0%	0,900	0,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,65	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-682503	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	61,79	13,84	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,48	18,66	37,38	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	50,68	17,60	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	51,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,76	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-68212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,90	46,36	0,000	0,000
TEG Contactor Towers	UQ-122301	0%	1,080	0,0	57,44	12,87	46,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,86	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,60	14,72	39,06	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	50,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	50,36	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		0%	0,800	0,0	60,46	-0,34	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,86	-21,80	44,70	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	49,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,985	0,0	31,61	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	66,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-12,27	8,80
P-1-10	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-09	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	9,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,04	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-14	E12,E13,E14	N	0,0	52,04	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 8"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 8"	S13	N	0,0	92,44	3,50	29,25
P-1-02 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LQC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,29	6,00
Elect. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	0,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,8	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,02
Crew & Stores @ SD	0		66,1	61,60	-6,04	41,06

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1bP	337	63,9	97,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	337	63,8	91,05	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	337	63,9	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	337	63,9	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	337	63,9	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	337	63,9	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4bS	337	63,9	91,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	337	63,9	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	337	63,9	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	337	63,9	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	337	63,9	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	337	63,9	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	5844	1107,6	56,39	0,00	10,05

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,00	38,00	18,29
Mooring Line (Winch 10)	S2	140	112,1	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	140	112,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	140	112,4	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	140	112,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	140	112,6	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	140	112,6	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,00	-38,00	18,29
Mooring Line (Winch 7)	P2	140	108,5	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	140	108,1	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	140	105,5	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	140	99,6	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	140	100,4	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	140	101,2	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		1205,6	57,84	1,82	18,29

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	63,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,88	37,58
Production Warehouse	TT-06	10%	5,1	88,01	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,99	31,44	37,66
Store	TT-09	5%	3,0	89,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,15	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Control Caisson Laydown Area	TT-13	10%	0,8	91,99	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,02	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,38	37,96
Crew & Stores @ TT	0		55,8	76,24	1,41	37,76

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,80	8,51	43,87
Dock Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tela Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	26,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-9,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	30,58
Multipurpose Court	LD-11	50%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		266,7	52,07	3,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Loading Condition: Ballast Down to Mooring Installation Draft - Stage 6
Mooring Installation Draft = 18.0m (Anchors Removed)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	6,10	0,000	0,000
SW Ballast 3S	728,7	1,025	99%	739	16,71	30,88	6,10	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	28%	73	27,71	-22,82	0,43	0,007	0,029
SW Ballast 5S	256,6	1,025	21%	56	27,71	22,82	0,34	0,007	0,029
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	20%	195	103,87	-24,48	1,21	0,004	0,015
SW Ballast 21S	963,7	1,025	54%	536	103,87	24,48	3,71	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				16616	49,52	0,47	5,53	0,02	0,09

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	16616,0	49,52	0,47	5,53	0,021	0,088
Displacement	**50389,5**	**57,123**	**-0,023**	**21,324**	**0,024**	**0,089**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	40,54 m
MCTC	29,88 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

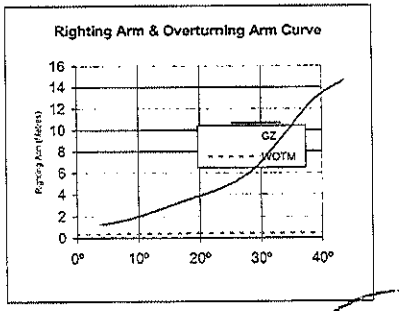
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	21,35 m	21,41 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	6,25 m	6,69 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,82 m



ESTA FOLHA FAZ PARTE DO DOCUMENTO ORIGINAL
DIVISÃO JUDICIÁRIA MARÍTIMA

Summary Breakdown of Deadw..t Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-29,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	29,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	103,6	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,09	39,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	31,05	-20,01	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	31,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,91	-15,02	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,00	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,82	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,82	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	75,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,000	0,0	84,85	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,000	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,0	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,95	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	29,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	81,04	30,07	40,56	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,00	-22,17	45,50	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UO-122308	0%	0,900	0,0	89,87	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UO-122306	0%	0,900	0,0	80,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.U. ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.U. ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-31001	0%	1,000	0,0	65,08	-23,75	27,60	0,000	0,000
Deaerator Tower (Stbd)	C-32001	0%	1,000	0,0	65,08	23,75	27,60	0,000	0,000
Auxiliary Generator DO	GE-314001	100%	0,870	1,0	94,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-29,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	29,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	68,77	-8,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,00	28,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,00	-28,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,02	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,35	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	84,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201A/V-66202	100%	0,900	1,4	80,77	0,00	20,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	78,22	9,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	46,58	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UO-122305	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,69	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-982503	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-982501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-982502	0%	0,900	0,0	54,46	18,88	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-982501-01	0%	0,900	0,0	50,88	17,80	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,53	63,76	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-68212	0%	0,000	0,0	50,51	-13,39	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,83	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,98	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	59,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513001	0%	1,000	0,0	97,03	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,30	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	58,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,850	0,0	60,40	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	58,86	-21,80	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,58	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	48,88	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,88	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
I-1-10	N1,N2,N3	N		0,0	24,34	-15,27	8,60
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	8,60
P-1-08	N7,N8,N9	N		0,0	24,34	14,75	8,60
FUTURE	N10,N11	N		0,0	24,34	17,37	6,50
I-1-01	E1,E2	N		0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N		0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N		0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N		0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N		0,0	52,64	18,57	6,32
I-1-03	E15,E16	N		0,0	55,25	18,57	6,22
I-1-04	E17,E18	N		0,0	57,28	18,57	6,22
P-1-07	E19,E20,E21	N		0,0	52,64	18,57	6,32
P-1-15	E22,E23,E24	N		0,0	52,64	18,57	6,32
P-1-12	E25,E26,E27	N		0,0	55,64	18,57	6,32
P-1-19	E28,E29,E30	N		0,0	58,64	18,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,64	18,57	6,32
I-1-05	S1,S2	N		0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N		0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N		0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N		0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N		0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N		0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N		0,0	92,44	2,50	29,25
Inj. Cum. (M/Fld) Riser UMB6"	S15	N		0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N		0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N		0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N		0,0	92,44	-1,00	29,25
P-1-20 (M/Fld) Riser 6"	S19	N		0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N		0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N		0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N		0,0	92,44	-6,67	29,25
FUTURE (WI) F1/11	S24,S25	N		0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N		0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N		0,0	92,44	-14,25	29,25
Optical Cable	S32	N		0,0	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RC-02	RG-2	N		0,0	71,63	-36,29	6,00
Elect. Cable	W3	N		0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N		0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N		0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N		0,0	52,26	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N		0,0	48,77	-36,29	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	86,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,00	41,12
Open Store	SD-04	0%	0,0	69,45	-9,23	41,02
Dry Store 1	SD-05	10%	8,0	40,21	8,46	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,84	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,92	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,39	0,00	19,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,10	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,83	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,10	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	63,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,01	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	68,10	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-6,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,63	37,68
Control Caisson Laydown Area	TT-13	10%	0,8	61,80	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,57	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	78,24	1,41	37,79

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,80	8,51	43,67
Deck Locker	MD-02	5%	1,4	48,80	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,8	48,80	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	26,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,20	43,00
Helicoptor & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: W - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Loading Condition: Ballast Down to Mooring Installation Draft - Stage 5
Transition Draft = 15.9m (Anchors Removed)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	88%	501	26,94	-36,18	5,39	0,001	0,013
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	20%	195	103,87	-24,48	1,21	0,004	0,016
SW Ballast 21S	963,7	1,025	44%	431	103,87	24,48	2,93	0,004	0,016
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				13397	47,90	0,60	5,41	0,01	0,04

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	13396,6	47,90	0,60	5,41	0,010	0,045
Displacement	**47170,1**	**57,182**	**-0,023**	**22,368**	**0,012**	**0,046**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	15,9 m
LCB (from FP)	57,17 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,99 m
LCF (from FP)	56,42 m
TCF (+ve stbd)	-0,04 m
MCHC	31,72 m
MCTC	24,24 m
TPC	14,42 T/cm

Draft, Heel & Trim
(Input from Stability Software)

Draft Aft Perpendicular (INPUT)	15,99 m
Heel about centreline (INPUT)	-0,01°
Trim About aft perp. (INPUT)	-0,14°
Heel about centreline	-0,005 m
Trim About aft perp.	-0,266 m
Mean Draft Aft	15,989 m
Mean Draft @ Amidships	15,856 m
Mean Draft Forward	15,723 m

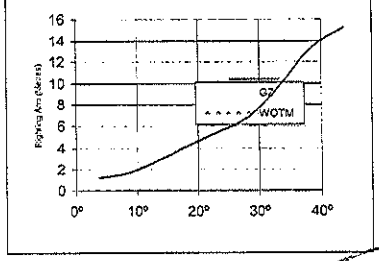
Statical Stability

Corrected VCG =	22,38 m	22,41 m
KMT / KML =	27,60 m	28,20 m
GMT / GML =	5,22 m	5,79 m

Stability Margin

Allowable VCG =	27,30 m
Stability Margin =	4,89 m

Righting Arm & Overturning Arm Curve



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Summary Breakdown. eadweight Loads

NOBL DENTO...

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,35	-22,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,35	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,39	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,36	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,36	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,96	36,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	91,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	91,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	76,94	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	76,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,67	-15,92	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	73,58	16,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,92	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,80	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSetti	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	79,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,09	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,97	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122308	0%	0,900	0,0	80,87	24,35	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UQ-122306	0%	0,900	0,0	89,09	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,61	-1,62	24,33	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-29,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	29,31	0,08	0,000	0,000
W.I.L.ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L.ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deserator Tower (Port)	C-51001	0%	1,000	0,0	65,08	-23,73	27,00	0,000	0,000
Deserator Tower (Starb)	C-52001	0%	1,000	0,0	65,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,20	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	60,77	-0,06	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,68	28,70	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	64,97	-0,20	52,91	0,000	0,000
Oily Water Separators	V-60201/V-60202	100%	0,900	1,4	80,77	0,00	29,60	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	70,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-10,71	19,61	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,07	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,86	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-082503	0%	0,900	0,0	58,48	13,14	44,96	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-082501-02	0%	0,900	0,0	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-082502	0%	0,900	0,0	54,49	18,00	37,90	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-082501-01	0%	0,900	0,0	50,68	17,00	37,52	0,000	0,000
Chemical Inj\n Package (Water Inj)	A42001	0%	0,900	0,0	61,58	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-60212	0%	0,900	0,0	59,51	-13,30	43,82	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,08	30,50	45,96	0,000	0,000
Drains Treatment Package	A43001	0%	1,000	0,0	97,09	14,72	36,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,06	36,56	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,57	-10,30	44,21	0,000	0,000
Booster Comp Process Pkg	A30000	0%	1,000	0,0	55,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,68	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	50,39	9,23	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	60,48	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,58	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,050	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,050	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,050	0,0	79,28	2,00	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	6,60
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	6,60
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	6,60
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	48,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,04	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,04	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) P1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	N	0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	N	0,0	71,63	-36,29	6,00
Electr. Cable	W3	N	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	N	0,0	53,50	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	N	0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	N	0,0	48,77	-36,29	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	0%	10,0	84,56	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	88,00	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	8,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,62
Crew & Stores @ SD	0		68,1	61,83	-0,84	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,25	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,25	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,0	83,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,60	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,63	37,68
Control Caisson Laydown Area	TT-13	10%	0,0	81,89	24,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,6	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,84	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,0	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicoptor & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicoptor	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	99,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	99,44	15,40	43,00
Compression C Laydown	LD-06	50%	31,9	99,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	70,34	-9,40	43,00
Turbine B Laydown	LD-08	0%	0,0	70,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	70,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	108,05	-19,00	30,58
Multipurpose Court	LD-11	50%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

ORIGINAL

TRIBUNAL MARITIMO DIVISÃO JURÍDICA

Petrobras 36 - R[illegible]dor Field Development
Operations Manual - Volume 7
Loading Condition: Ballast Down to Mooring Installation Draft - Stage 4
Transition Draft = 12.9m (Anchors Removed)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	88%	501	26,94	-36,18	5,39	0,002	0,014
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				8860	43,13	0,25	5,50	0,00	0,01

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	8859,9	43,13	0,25	5,50	0,002	0,014
Displacement	**42633,4**	**57,18**	**-0,161**	**24,19**	**0,004**	**0,015**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	12,9 m
LCB (from FP)	57,25 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,21 m
LCF (from FP)	56,41 m
TCF (+ve stbd)	-0,03 m
MCHC	24,17 m
MCTC	35,16 m
TPC	18,35 T/cm

Draft, Heel & Trim
(Input from Stability Software)

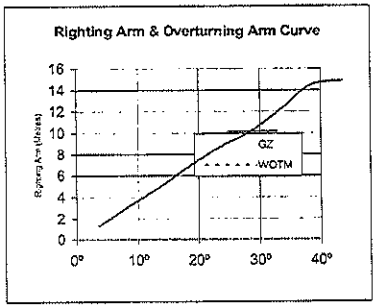
Draft Aft Perpendicular (INPUT)	12,73 m
Heel about centreline (INPUT)	-1,34°
Trim About aft perp. (INPUT)	0,18°
Heel about centreline	-0,778 m
Trim About aft perp.	0,348 m
Mean Draft Aft	12,731 m
Mean Draft @ Amidships	12,905 m
Mean Draft Forward	13,079 m

Statical Stability

Corrected VCG =	24,20 m	24,21 m
KMT / KML =	28,60 m	33,50 m
GMT / GML =	4,40 m	9,29 m

Stability Margin

Allowable VCG =	28,30 m
Stability Margin =	4,09 m



CÓPIA FIEL DO DOCUMENTO ORIGINAL

Summary Breakdown of Dead ... t Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6p	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	16,2	78,67	4,88	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,01	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,70	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,8	78,67	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,01	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	73,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-15,60	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,63	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	79,5	82,01	15,62	39,10	0,000	0,000
DOSetti	N4S	100%	0,870	79,5	79,15	15,62	39,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T05101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T05105	100%	0,900	0,3	79,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T05106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T05107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T05108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T05109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T05110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T05111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UQ-122306	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UQ-122306	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,42	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-01001	0%	1,000	0,0	85,06	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-02001	0%	1,000	0,0	85,06	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GS-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-4,68	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	45,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T05305	100%	0,870	0,2	21,88	20,70	45,94	0,000	0,000
FW Chem Dosing Tank	T05101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T05102	100%	1,000	0,5	84,07	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TC-123001	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533005	0%	1,000	0,0	78,22	6,44	48,47	0,000	0,000
Non Structural Tanks	0			12,1	43,56	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,28	-26,31	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533001	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-082903	0%	0,900	0,0	58,49	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	61,79	13,04	57,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,46	18,68	37,30	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	50,68	17,80	37,52	0,000	0,000
Chemical Injin Package (Water Inj)	A42001	0%	0,900	0,0	81,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,36	0,000	0,000
Safety Gas KO Drum Package	V-122201	0%	0,075	0,0	82,88	30,50	45,00	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	58,04	22,08	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	36,39	5,28	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,87	0,000	0,000
Process Piping & Valves		0%	0,800	0,0	60,48	-0,94	40,07	0,000	0,000
HP Flare KO Drum Skid	A49001	0%	0,820	0,0	99,86	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	20,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122300	0%	0,050	0,0	79,28	31,85	48,80	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,050	0,0	79,28	16,85	48,80	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,050	0,0	79,28	2,06	48,80	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N		0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	8,80
P-1-05	N7,N8,N9	N		0,0	24,34	14,75	8,80
FUTURE	N10,N11	N		0,0	24,34	17,37	6,50
I-1-01	E1,E2	N		0,0	41,26	16,57	6,22
P-1-09	E3,E4,E5	N		0,0	43,64	16,57	6,32
P-1-13	E6,E7,E8	N		0,0	48,64	16,57	6,32
LOC A	E9,E10,E11	N		0,0	49,64	16,57	6,32
P-1-04	E12,E13,E14	N		0,0	52,64	16,57	6,32
I-1-03	E15,E16	N		0,0	55,26	16,57	6,22
I-1-04	E17,E18	N		0,0	57,26	16,57	6,22
P-1-07	E19,E20,E21	N		0,0	59,64	16,57	6,32
P-1-18	E22,E23,E24	N		0,0	62,64	16,57	6,32
P-1-12	E25,E26,E27	N		0,0	65,64	16,57	6,32
P-1-19	E28,E29,E30	N		0,0	68,64	16,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,64	16,57	6,32
I-1-05	S1,S2	N		0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N		0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N		0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N		0,0	92,44	6,75	29,25
P-1-08 (M/Fld) Riser 6"	S12	N		0,0	92,44	6,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N		0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N		0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N		0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N		0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N		0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N		0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N		0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N		0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N		0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N		0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N		0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	N		0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N		0,0	92,44	-14,25	29,25
Optical Cable	S32	N		0,0	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RC-02	RG-2	N		0,0	71,03	-36,29	6,00
Elect. Cable	W3	N		0,0	62,17	-18,57	6,50
FUEL GAS - RSO Riser 6" RG-01	W4	N		0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N		0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N		0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N		0,0	48,77	-36,29	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	86,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	8,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,0	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,84	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,92	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	91,85	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	91,85	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	20,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,6	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	83,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,85	37,58
Production Warehouse	TT-06	10%	5,1	86,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	86,61	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,75
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,75
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,66
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,76

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,67
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,67
Manna Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	49,90
Toto Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,0	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	108,05	-19,00	35,58
Multipurpose Court	LD-11	80%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		246,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

DOCUMENTO ORIGINAL

Ballast Down to Mooring Installation Draft - Stage 3
Transition Draft = 12.1m (Anchors Removed)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	46%	374	13,73	-36,66	2,95	0,003	0,036
SW Ballast 4S	798,3	1,025	49%	398	13,73	36,66	3,12	0,003	0,036
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	88%	501	26,94	-36,18	5,39	0,002	0,015
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	40%	311	98,66	-36,37	2,51	0,003	0,029
SW Ballast 20S	768,2	1,025	58%	453	98,59	36,27	3,60	0,003	0,029
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				7217	40,47	1,14	4,41	0,01	0,15

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	7217,0	40,47	1,14	4,41	0,013	0,145
Displacement	**40990,6**	**57,27**	**-0,02**	**24,75**	**0,015**	**0,147**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	12,1 m
LCB (from FP)	57,27 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,95 m
LCF (from FP)	58,08 m
TCF (+ve stbd)	-0,02 m
MCHC	216,43 m
MCTC	281,34 m
TPC	35,47 T/cm

Draft, Heel & Trim
(Input from Stability Software)

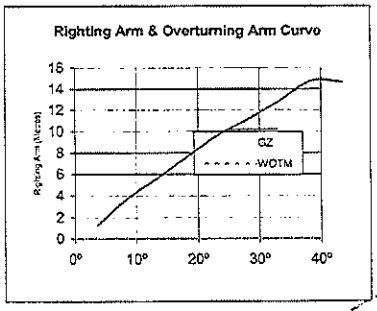
Draft Aft Perpendicular (INPUT)	12,10 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	12,100 m
Mean Draft @ Amidships	12,100 m
Mean Draft Forward	12,100 m

Statical Stability

Corrected VCG =	24,76 m	24,90 m
KMT / KML =	65,80 m	102,30 m
GMT / GML =	41,04 m	77,40 m

Stability Margin

Allowable VCG =	65,50 m
Stability Margin =	40,60 m



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Loading Condition: Ballast Down to Mooring Installation Draft - Stage 3

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,33	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,38	0,19	28,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	81,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	81,72	23,02	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,81	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-19,99	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,0	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSetti	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65103	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	33,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,6	46,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UO-122308	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,02	24,51	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,40	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,40	26,31	0,08	0,000	0,000
W.L.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	68,77	-0,06	23,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	29,00	28,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-28,70	27,00	0,000	0,000
Hellfuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Hellfuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,68	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	60,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separators	68201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533005	0%	1,000	0,0	76,22	0,44	49,47	0,000	0,000
Non Structural Tanks	0			12,1	45,59	-9,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,26	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TQ-533001	0%	0,900	0,0	84,74	-16,71	10,81	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-682503	0%	0,900	0,0	59,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	81,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,48	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	59,68	17,60	37,52	0,000	0,000
Chemical injin Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	36,33	0,000	0,000
Chemical injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	35,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,89	30,59	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,09	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,67	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,04	22,66	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	D-511102A/B/C	0%	1,025	0,0	56,29	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	60,46	4,50	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	93,60	-21,00	44,78	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	46,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	46,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	46,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,60	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-15	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-05	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,29	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,04	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-16	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-06	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-05 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,29	6,00
Electr. Cable	W3	N	0,0	92,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RO-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,50	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	32,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	86,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,04	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	6P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,25	-30,50	4,60
Chain Locker - Port Fwd (Winch 0)	6P	450	85,3	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,25	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	28,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	43,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	40,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,01	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,10	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,79

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	6,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,8	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	46,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	45,00
Compression B Laydown	LD-05	50%	28,0	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			0,0	0,00	0,00	0,00

Loading Condition: Ballast Down to Mooring Installation Draft - Stage 2
Transition Draft = 11.7m (Anchors Removed)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	22%	178	13,73	36,66	1,48	0,003	0,035
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	88%	501	26,94	-36,18	5,39	0,002	0,015
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				5883	35,73	1,44	5,02	0,00	0,05

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	5882,5	35,73	1,44	5,02	0,005	0,051
Displacement	**39656,0**	**57,14**	**-0,01**	**25,52**	**0,008**	**0,052**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	11,7 m
LCB (from FP)	57,24 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,73 m
LCF (from FP)	58,09 m
TCF (+ve stbd)	-0,02 m
MCHC	214,07 m
MCTC	279,23 m
TPC	35,20 T/cm

Draft, Heel & Trim
(Input from Stability Software)

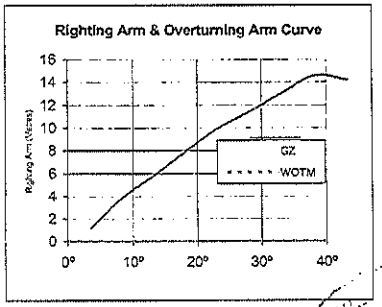
Draft Aft Perpendicular (INPUT)	11,66 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,07°
Heel about centreline	0,001 m
Trim About aft perp.	0,146 m
Mean Draft Aft	11,659 m
Mean Draft @ Amidships	11,732 m
Mean Draft Forward	11,805 m

Statical Stability

Corrected VCG =	25,53 m	25,58 m
KMT / KML =	67,60 m	105,20 m
GMT / GML =	42,07 m	79,62 m

Stability Margin

Allowable VCG =	67,30 m
Stability Margin =	41,72 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-20,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	20,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,85	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	70,91	1,72	39,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	165,3	74,52	-13,80	30,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	119,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	70,13	-0,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,04	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,56	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65103	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	33,33	26,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,06	0,000	0,000
Lm. Gen. LO Storage	T65109	100%	0,900	0,5	48,66	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.I.L.ding Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L.ding Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,06	-23,73	27,60	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,06	23,73	27,60	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,00	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-6,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Retual	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Dike	A58002	100%	1,000	0,1	28,91	-10,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExcansionTank	T55102	100%	1,000	0,5	64,97	-5,20	52,91	0,000	0,000
Oily Water Separators	A58201/V-58202	100%	0,000	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	ATQ-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533005	0%	1,000	0,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-0,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533001	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical injection Packag	UQ-682503	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-682502	0%	0,900	0,0	64,46	18,68	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	50,68	17,60	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	53,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,835	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	50,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-122302	0%	1,080	0,0	57,13	16,93	45,39	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,060	0,0	57,44	12,87	48,39	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,85	30,50	45,90	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	38,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,53	23,08	38,51	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	58,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	92,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,30	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,80	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	48,31	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,61	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	46,56	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	46,56	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	46,56	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Instrll		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N		0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N		0,0	24,34	14,75	8,80
FUTURE	N10,N11	N		0,0	24,34	17,37	6,50
I-1-01	E1,E2	N		0,0	41,25	18,57	6,22
P-1-09	E3,E4,E5	N		0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N		0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N		0,0	49,64	18,57	6,32
I-1-04	E12,E13,E14	N		0,0	52,64	18,57	6,32
I-1-03	E15,E16	N		0,0	55,26	18,57	6,22
I-1-04	E17,E18	N		0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N		0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N		0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N		0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N		0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,64	18,57	6,32
I-1-05	S1,S2	N		0,0	92,44	15,13	20,25
P-1-05	S3,S4,S5	N		0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N		0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N		0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N		0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N		0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N		0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N		0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N		0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N		0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N		0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 8"	S19	N		0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N		0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N		0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N		0,0	92,44	-6,67	29,25
FUTURE (WI) F1/1	S24,S25	N		0,0	92,44	-8,87	20,25
SPARE (F1 / LOC H)	S26,S27,S28	N		0,0	92,44	-11,25	20,25
SPARE (RJS-513)	S29,S30,S31	N		0,0	92,44	-14,25	29,25
Optical Cable	S32	N		0,0	92,44	-16,00	29,25
SPARE	W1	O		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N		0,0	71,03	-36,29	6,00
Electr. Cable	W3	N		0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N		0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N		0,0	53,56	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N		0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N		0,0	48,77	-38,20	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%		Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%		10,0	84,58	-24,00	49,62
Production Warehouse	SD-02	10%		5,2	88,00	24,00	41,12
Warehouse	SD-03	10%		15,0	85,73	-15,62	41,12
Open Store	SD-04	0%		0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%		6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%		4,8	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%		12,4	42,47	15,03	41,02
Crew & Effects	0	50%		15,0	45,72	0,00	41,82
Crew & Stores @ SD	0			68,1	61,83	-0,84	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	88,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	88,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	28,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1366,6	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,61	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	25,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	9,6	63,51	9,85	37,68
Pump Store Fwd	TT-02	10%	0,8	49,28	9,85	37,68
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,68
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,68
Mech Workshop	TT-05	10%	10,0	85,07	-23,89	37,68
Production Warehouse	TT-06	10%	5,1	89,61	24,15	37,68
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,68
Store	TT-08	5%	4,1	82,99	31,44	37,88
Store	TT-09	5%	3,0	89,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,76
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,76
Hydraulic Workshop	TT-12	10%	3,1	75,27	4,93	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,87	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @11	0		58,8	78,24	1,41	37,75

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,89	8,51	43,67
Dock Locker	MD-02	5%	1,4	48,89	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,67
Crew & Stores @ MD	0		7,4	52,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,8	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	20,3	95,44	10,45	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	20,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	38,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Loading Condition: Ballast Down to Mooring Installation Draft - Stage 1
Transit Draft = 11.0m (Anchors Removed)

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	22%	178	13,73	36,66	1,48	0,003	0,038
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	88%	501	26,94	-36,18	5,39	0,002	0,016
SW Ballast 7S	555,2	1,025	99%	563	26,94	36,18	6,06	0,000	0,000
SW Ballast 11P	644,7	1,025	3%	18	51,06	-30,81	0,14	0,004	0,010
SW Ballast 11S	644,7	1,025	2%	12	51,06	30,81	0,10	0,002	0,007
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	1%	7	61,72	30,81	0,05	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				3310	19,65	2,51	5,38	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	0,0	0,0	0,0	0,0	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	3309,8	19,65	2,51	5,38	0,011	0,071
Displacement	**37083,4**	**57,18**	**-0,02**	**26,98**	**0,014**	**0,072**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	11,0 m
LCB (from FP)	57,18 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,36 m
LCF (from FP)	58,17 m
TCF (+ve stbd)	-0,02 m
MCHC	207,59 m
MCTC	270,13 m
TPC	33,56 T/cm

Draft, Heel & Trim
(Input from Stability Software)

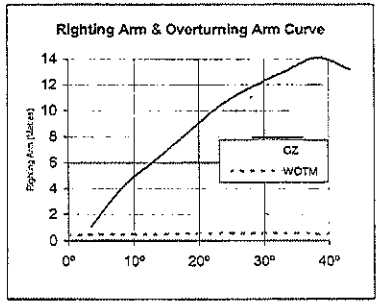
Draft Aft Perpendicular (INPUT)	11,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	11,000 m
Mean Draft @ Amidships	11,000 m
Mean Draft Forward	11,000 m

Statical Stability

Corrected VCG =	26,99 m	27,05 m
KMT / KML =	70,50 m	109,20 m
GMT / GML =	43,51 m	82,15 m

Stability Margin

Allowable VCG =	44,90 m
Stability Margin =	17,85 m



ESTA FOLHA FAZ PARTE DO DOCUMENTO Original

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	199,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	199,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,06	38,10	0,000	0,000
Potable Water	0			407,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,65	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,65	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,54	-17,78	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,001	0,000
Fuel Oil	0			15,8	78,01	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	87,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,38	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,09	39,30	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UO-122306	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulo 'B'	UO-122305	0%	0,900	0,0	89,68	0,55	49,24	0,000	0,000
Turbine Lube Oil Consulo 'A'	UO-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.I.L. ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L. ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,80	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,08	23,73	27,80	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-0,06	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Reflol	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-15,20	45,10	0,000	0,000
Incinerator DO Day Tk	T59505	100%	0,870	0,2	21,66	26,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,01	0,000	0,000
FW Cooling Expansion	T55102	100%	1,000	0,5	64,97	-6,20	52,91	0,000	0,000
Oily Water Separator	V-60201/V-60202	100%	0,900	1,4	80,77	0,00	29,60	0,000	0,000
Glycol Sump Tank	TC-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	6,44	48,47	0,000	0,000
Non Structural Tanks	0			12,1	45,36	-9,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,29	-28,31	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,28	-18,83	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	84,74	-18,71	10,91	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UO-682500	0%	0,900	0,0	58,48	13,14	44,68	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	0%	0,900	0,0	61,79	13,84	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	0%	0,900	0,0	54,46	18,85	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	0%	0,900	0,0	59,66	17,80	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,75	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-60212	0%	0,000	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UO-123302	0%	1,080	0,0	57,13	16,03	45,38	0,000	0,000
TEG Contactor Towers	UO-123301	0%	1,080	0,0	57,44	12,87	46,39	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,50	45,98	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	57,60	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	86,94	22,98	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	32,06	16,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,30	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,800	0,0	60,48	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	99,86	-21,60	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	28,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,965	0,0	31,81	23,00	46,56	0,000	0,000
Process Gas Module 'C'	UO-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UO-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,650	0,0	79,28	2,03	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	58,39	0,00	43,05	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	6,80
P-1-15	N4,N5,N6	N	0,0	24,34	-12,27	6,80
P-1-06	N7,N8,N9	N	0,0	24,34	14,75	6,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,28	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,04	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,84	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-02	S1,S2	N	0,0	02,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	02,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	02,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	02,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	02,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	02,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	02,44	2,50	29,25
Inj. Clm. (M/Fld) Riser UM06"	S15	N	0,0	02,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	02,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	02,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	02,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	02,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	02,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	02,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	02,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	02,44	-8,67	29,25
SPARE (F1 / LCC H))	S26,S27,S28	N	0,0	02,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	02,44	-14,25	29,25
Optical Cable	S32	N	0,0	02,44	-16,00	29,25
SPARE	W1	O	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,29	6,00
Elect. Cable	W3	N	0,0	02,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL G - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL D - EXPORT Riser 10" RO-02	W6	N	0,0	52,28	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	5%	10,0	64,58	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	68,80	24,00	41,12
Warehouse	SD-03	10%	15,0	65,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,84	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,28	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,28	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	28,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,6	59,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	63,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	89,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,88	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	78,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,0	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	59,10	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-30,80	48,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,85	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,37	-11,28	43,00
Compression A Laydown	LD-04	50%	20,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	100,05	-19,00	36,59
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		208,7	32,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		0,0	0,00	0,00	0,00

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

CÓPIA FIEL DO DOCUMENTO ORIGINAL

Ballast Down From Transit Draft (11.0m) to Mooring Installation Draft (18.0m)

NOBLE DENTON

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Transit Condition Stage 1	1P	99%					
	1S	99%					
	4S	22%					
	7P	88%					
	7S	99%					
	11P	3%					
	11S	2%	11,000	11,000	11,000	0,000	0,000
Stage 2	11P	99%					
	11S	99%					
	13P	99%					
	13S	99%	11,659	11,732	11,805	0,000	0,146
Stage 3	4P	46%					
	4S	49%					
	20P	40%					
	20S	58%	12,100	12,100	12,100	0,000	0,000
Stage 4	4P	99%					
	4S	99%					
	20P	99%					
	20S	99%	12,731	12,905	13,079	-0,778	0,348

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Stage 5	2P	99%					
	2S	99%					
	17P	99%					
	17S	99%					
	18P	99%					
	18S	99%					
	21P	20%					
	21S	44%	15,989	15,856	15,723	-0,005	-0,266
Stage 6	3P	99%					
	3S	99%					
	5P	28%					
	5S	21%					
	7P	99%					
	19P	99%					
	19S	99%					
	21P	20%					
	21S	54%	18,000	18,000	18,000	0,000	0,000

Notes:
1. SW Density assumed 1.025
2. Correction at end of sequence to be made to tanks 5P, 5S, 21P, 21S for level trim
3. -ve trim is trim by the stern, -ve heel is to port

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

SUMMARY OF BALLASTING SEQUENCE
BALLASTING FROM TRANSIT DRAFT (11.0M) TO SURVIVAL DRAFT (18.0M)

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Transit Condition Stage 1							
Stage 2							
Stage 3							
Stage 4							
Stage 5							

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Stage 6							
Stage 7							
Stage 8							

Notes:
1. SW Density assumed 1.025
2. Correction at end of sequence to be made to tanks 5P, 5S, 17P, 17S for level trim
3. -ve trim is trim by the stern

É CÓPIA FIEL DO DOCUMENTO ORIGINAL

Loading Condition: Ballast Down to Survival Draft - Stage 6
Survival Draft = 18.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	99%	739	16,71	-30,88	6,10	0,000	0,000
SW Ballast 3S	728,7	1,025	99%	739	16,71	30,88	6,10	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	29%	77	27,71	-22,82	0,45	0,007	0,029
SW Ballast 5S	256,6	1,025	9%	23	27,71	22,82	0,14	0,003	0,015
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,001	0,012
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	99%	563	85,84	36,18	6,06	0,000	0,000
SW Ballast 19P	728,8	1,025	99%	739	96,07	-30,88	6,10	0,000	0,000
SW Ballast 19S	728,8	1,025	99%	739	96,07	30,88	6,10	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	18%	173	103,87	-24,48	1,08	0,004	0,015
SW Ballast 21S	963,7	1,025	56%	553	103,87	24,48	3,84	0,004	0,015
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				16580	49,55	0,48	5,54	0,02	0,09

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	16580,0	49,6	0,5	5,54	0,020	0,086
Displacement	**50389,5**	**57,123**	**-0,023**	**21,33**	**0,022**	**0,087**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	18,0 m
LCB (from FP)	57,12 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	7,62 m
LCF (from FP)	56,43 m
TCF (+ve stbd)	-0,04 m
MCHC	40,49 m
MCTC	29,84 m
TPC	14,93 T/cm

Draft, Heel & Trim
(Input from Stability Software)

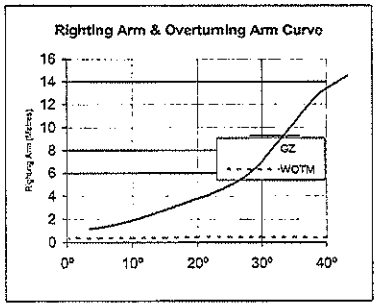
Draft Aft Perpendicular (INPUT)	18,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	18,000 m
Mean Draft @ Amidships	18,000 m
Mean Draft Forward	18,000 m

Statical Stability

Corrected VCG =	21,36 m	21,42 m
KMT / KML =	27,60 m	28,10 m
GMT / GML =	6,24 m	6,68 m

Stability Margin

Allowable VCG =	25,23 m
Stability Margin =	3,81 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	49,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	49,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,38	0,19	25,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,94	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,0	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Sloped Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,56	10,16	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,60	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	38,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,9	82,01	15,62	38,10	0,000	0,000
DOSettl	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,9	76,13	-3,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,5	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	46,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	0%	0,900	0,0	69,87	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	0%	0,900	0,0	69,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	69,71	-9,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Slige Holding Tank	P	10%	1,000	0,5	78,40	-26,31	0,08	0,000	0,000
Slige Holding Tank	S	10%	1,000	0,5	78,40	26,31	0,08	0,000	0,000
W.L.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	89,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Sterb)	C-52001	0%	1,000	0,0	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	70,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-6,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T65001A	0%	1,316	0,0	25,00	28,76	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T65001B	0%	1,316	0,0	25,00	-28,76	27,00	0,000	0,000
Helifuel Reluel	A58001	100%	1,000	7,9	34,55	-12,53	43,82	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,81	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,88	29,76	43,84	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	69,02	-9,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,37	-9,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	20,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,03	37,08	0,000	0,000
Tank Top Sump Tank	V-933605	0%	1,000	0,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	40,58	-9,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-9,45	49,25	0,000	0,000
Gas/Cond. Chemical injection Packag	UQ-662603	0%	0,000	0,0	58,46	13,14	44,95	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-662501-02	0%	0,000	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical injection	UQ-662502	0%	0,000	0,0	34,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-662501-01	0%	0,000	0,0	50,66	17,00	37,52	0,000	0,000
Chemical injn Package (Water Inj)	A42001	0%	0,000	0,0	61,55	17,80	38,33	0,000	0,000
Chemical injection Package (Prod)	A42002	0%	0,000	0,0	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-9,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,000	0,0	57,13	18,93	45,38	0,000	0,000
TCG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	46,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,875	0,0	92,88	30,99	45,90	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,89	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	39,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	66,04	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,87	0,000	0,000
Process Piping & Valves		0%	0,980	0,0	60,40	-9,07	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,80	44,78	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,95	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	5,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	5,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,73	5,80
FUTURE	N10,N11	N	0,0	24,34	17,37	5,80
I-1-01	E1,E2	N	0,0	41,20	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,04	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-10	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	62,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	62,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	62,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	62,44	6,75	29,25
P-1-06 (M/Fld) Riser 8"	S12	N	0,0	62,44	5,00	29,25
P-1-14 (M/Fld) Riser 8"	S13	N	0,0	62,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	62,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB6"	S15	N	0,0	62,44	1,90	29,25
Service Manifold Riser 4"	S16	N	0,0	62,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	62,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	62,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	62,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	62,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	62,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	62,44	-5,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	62,44	-6,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	62,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	62,44	-12,25	29,25
Optical Cable	S32	N	0,0	62,44	-18,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,83	-36,29	6,00
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,69	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	10%	5,0	86,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	0,0	40,21	8,46	40,52
Dry Store 2	SD-06	10%	4,8	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		66,1	61,81	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,28	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,28	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	25,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,59	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	83,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,15	37,88
Mech Workshop	TT-05	10%	10,0	85,07	-23,65	37,58
Production Warehouse	TT-06	10%	5,1	80,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-9,10	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,88
Central Caisson Laydown Area	TT-13	10%	0,0	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,6	78,24	1,41	37,76

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,19	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	46,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,05	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	20,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	29,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,8	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
Anchors (2 off)	0		30,0	35,31	0,00	12,20
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			30,0	35,31	0,00	12,20

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Loading Condition: Ballast Down to Survival Draft - Stage 5
Survival Draft = 18.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m^3	Density t/m^3	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	99%	891	6,78	-30,71	6,16	0,000	0,000
SW Ballast 2S	877,6	1,025	99%	891	6,78	30,71	6,16	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	99%	810	13,73	-36,66	6,15	0,000	0,000
SW Ballast 4S	798,3	1,025	99%	810	13,73	36,66	6,15	0,000	0,000
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	99%	563	26,94	-36,18	6,06	0,000	0,000
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,001	0,013
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	99%	532	84,58	-31,74	5,21	0,000	0,000
SW Ballast 17S	523,9	1,025	99%	532	84,58	31,74	5,21	0,000	0,000
SW Ballast 18P	555,2	1,025	99%	563	85,84	-36,18	6,06	0,000	0,000
SW Ballast 18S	555,2	1,025	65%	372	85,84	36,18	4,01	0,001	0,013
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	99%	780	98,66	-36,37	6,11	0,000	0,000
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	9%	84	103,87	-24,48	0,55	0,008	0,062
SW Ballast 21S	963,7	1,025	71%	701	103,87	24,48	4,93	0,010	0,087
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				13426	47,94	0,60	5,43	0,02	0,18

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	13425,6	47,9	0,6	5,43	0,020	0,175
Displacement	**47235,1**	**57,169**	**-0,022**	**22,36**	**0,023**	**0,176**

HydroStatic Properties (Sea Water ρ = 1.025 T/m³)

MEAN DRAFT	15,9 m
LCB (from FP)	57,17 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,99 m
LCF (from FP)	56,42 m
TCF (+ve stbd)	-0,04 m
MCHC	31,74 m
MCTC	23,74 m
TPC	14,42 T/cm

Draft, Heel & Trim
(Input from Stability Software)

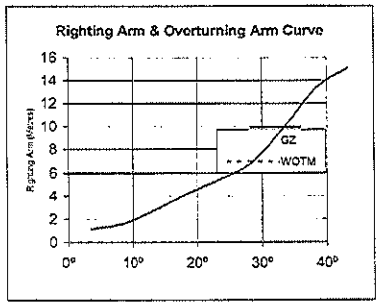
Draft Aft Perpendicular (INPUT)	15,90 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	15,900 m
Mean Draft @ Amidships	15,900 m
Mean Draft Forward	15,900 m

Statical Stability

Corrected VCG =	22,38 m	22,53 m
KMT / KML =	27,60 m	28,20 m
GMT / GML =	5,22 m	5,67 m

Stability Margin

Allowable VCG =	27,30 m
Stability Margin =	4,77 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-29,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	29,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	76,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,04	-17,79	35,43	0,000	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,98	35,43	0,000	0,000
Fuel Oil	0			15,8	70,01	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	97,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,80	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	76,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	76,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	21,04	30,07	40,86	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulte 'C'	UQ-122305	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Consulte 'B'	UQ-122306	0%	0,900	0,0	89,66	9,55	49,24	0,000	0,000
Turbine Lube Oil Consulte 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,0	85,81	-1,02	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.I.L. ring Drain Tank	P	0%	1,000	0,0	77,13	-33,77	1,22	0,000	0,000
W.I.L. ring Drain Tank	S	0%	1,000	0,0	77,13	33,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,80	0,000	0,000
Deaerator Tower (Stbd)	C-52001	0%	1,000	0,0	85,08	23,73	27,80	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,28	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,28	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-6,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	26,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	26,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,0	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	26,76	43,04	0,000	0,000
FW Chem Dosing Tank	T05101	100%	1,000	2,0	83,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T05102	100%	1,000	0,5	84,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,33	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	46,58	-9,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-16,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,000	0,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,53	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-682503	0%	0,900	0,0	58,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-682501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Gas Water Chemical Injection	UQ-682502	0%	0,900	0,0	54,46	18,66	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-682501-01	0%	0,900	0,0	56,58	17,00	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,000	0,0	61,55	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,58	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,93	63,76	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,060	0,0	57,44	12,67	46,36	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,85	30,90	42,98	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,06	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,25	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,96	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	56,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,000	0,0	60,48	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,65	-21,60	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	49,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,955	0,0	31,81	23,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,950	0,0	79,28	2,05	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,60	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	6,80
P-1-15	N4,N5,N6	N	0,0	24,34	-12,27	6,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	6,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,59
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	48,64	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	C17,C18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Cum. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RUG-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	0	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,63	-36,29	6,00
Elocer. Cable	W3	N	0,0	62,17	-18,57	6,00
FUEL GAS - RSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL D - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL D - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,62
Production Warehouse	SD-02	10%	8,2	86,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	80,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,62
Dry Store 2	SD-06	10%	4,0	37,21	15,03	40,62
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,84	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,62	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	18,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	26,31	-31,12	18,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,62	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	18,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	18,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,03	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	33,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,03	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	83,31	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,28	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,88
Store	TT-09	5%	3,0	80,10	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	8,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,9	76,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,16	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	20,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,8	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	109,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
Anchors (2 off)	0		36,0	35,31	0,00	12,20
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			36,0	35,31	0,00	12,20

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Petrobras 36 - Roncador Field Development
Operations Manual - Volume 7
Loading Condition: Ballast Down to Survival Draft - Stage 4
Transit Draft = 12.8m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	84%	688	13,73	-36,66	5,25	0,003	0,035
SW Ballast 4S	798,3	1,025	98%	799	13,73	36,66	6,07	0,003	0,035
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	87%	494	26,94	-36,18	5,32	0,002	0,014
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,002	0,014
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	93%	731	98,66	-36,37	5,74	0,003	0,028
SW Ballast 20S	768,2	1,025	99%	780	98,59	36,27	6,11	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				8668	43,29	0,94	5,27	0,01	0,13

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	8668,4	43,3	0,9	5,27	0,011	0,126
Displacement	**42477,9**	**57,254**	**-0,020**	**24,22**	**0,014**	**0,127**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	12,8 m
LCB (from FP)	57,25 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	6,18 m
LCF (from FP)	56,41 m
TCF (+ve stbd)	-0,03 m
MCHC	23,87 m
MCTC	35,61 m
TPC	18,49 T/cm

Draft, Heel & Trim
(Input from Stability Software)

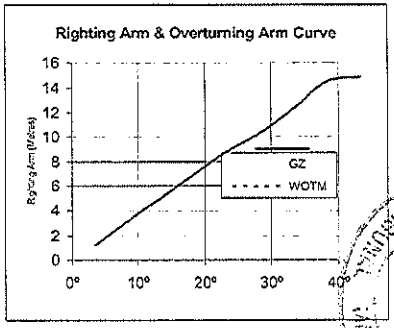
Draft Aft Perpendicular (INPUT)	12,80 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	12,800 m
Mean Draft @ Amidships	12,800 m
Mean Draft Forward	12,800 m

Statical Stability

Corrected VCG =	24,23 m	24,35 m
KMT / KML =	28,60 m	33,80 m
GMT / GML =	4,37 m	9,45 m

Stability Margin

Allowable VCG =	28,30 m
Stability Margin =	3,95 m



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Loading Condition: Ballast Down to Survival Draft - Stage 4

Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8P	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-11,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	11,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,36	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,36	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-10,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	10,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-29,99	25,00	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,00	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	35,10	0,000	0,000
Potable Water	0			402,7	84,38	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	0,2	70,94	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,55	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,02	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,22	-13,99	38,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,0	74,00	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,6	76,13	-0,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,5	78,47	-1,55	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	75,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,98	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	46,80	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122308	0%	0,900	0,0	69,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UQ-122306	0%	0,900	0,0	69,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	0%	0,900	0,0	80,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,80	0,000	0,000
Deaerator Tower (Stbd)	C-52001	0%	1,000	0,0	85,08	23,73	27,80	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	70,72	-26,20	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	70,72	26,20	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-8,06	26,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	25,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-25,70	27,00	0,000	0,000
Helifuel Refuel	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	A58002	100%	1,000	0,1	25,91	-19,20	45,10	0,000	0,000
Incinerator DO Day Tank	T50305	100%	0,870	0,2	21,88	29,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	93,02	-5,38	52,91	0,000	0,000
FW Cooling Exansion Tank	T55102	100%	1,000	0,5	84,97	-6,20	52,91	0,000	0,000
Oily Water Separators	V-00201/V-00202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TD-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Bump Tank	V-533605	0%	1,000	0,0	70,22	0,44	48,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-9,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,29	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	69,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	69,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	80,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Package	UQ-882503	0%	0,900	0,0	58,48	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-882501-02	0%	0,900	0,0	61,70	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-882502	0%	0,900	0,0	54,46	18,88	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-882501-01	0%	0,900	0,0	50,88	17,80	37,52	0,000	0,000
Chemical Injn Package (Water Inj)	A42001	0%	0,000	0,0	61,56	17,80	38,03	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,000	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	46,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-60212	0%	0,000	0,0	59,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,03	45,36	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	67,44	12,67	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	92,88	30,50	45,98	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,86	14,72	38,03	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,826	0,0	53,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	59,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,88	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	50,30	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,57	0,000	0,000
Process Piping & Valves		0%	0,860	0,0	60,45	-0,54	40,97	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,50	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	20,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,985	0,0	31,81	23,90	45,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,850	0,0	79,28	31,85	48,86	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,850	0,0	79,28	16,85	48,86	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,850	0,0	79,28	2,06	48,86	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	86,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-02	N1,N2,N3	N		0,0	24,34	-15,27	8,80
P-1-19	N4,N5,N6	N		0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N		0,0	24,34	14,75	8,80
FUTURE	N10,N11	N		0,0	24,34	17,37	6,50
I-1-01	E1,E2	N		0,0	41,20	18,57	6,32
P-1-09	E3,E4,E5	N		0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N		0,0	49,64	18,57	6,32
LOC-1	E9,E10,E11	N		0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N		0,0	52,64	18,57	6,32
I-1-03	E15,E16	N		0,0	55,20	18,57	6,22
I-1-04	E17,E18	N		0,0	57,29	18,57	6,22
P-1-07	E19,E20,E21	N		0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N		0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N		0,0	65,04	18,57	6,32
P-1-19	E28,E29,E30	N		0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,04	18,57	6,32
I-1-05	S1,S2	N		0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N		0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N		0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N		0,0	92,44	6,75	29,25
P-1-00 (M/Fld) Riser 6"	S12	N		0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N		0,0	92,44	3,50	29,25
P-1-23 (M/Fld) Riser 6"	S14	N		0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB8"	S15	N		0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N		0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N		0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N		0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 8"	S19	N		0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 8"	S20	N		0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 8"	S21	N		0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N		0,0	92,44	-6,87	29,25
FUTURE (W) F1/I1	S24,S25	N		0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	N		0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N		0,0	92,44	-14,25	29,25
Optical Cable	S32	N		0,0	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N		0,0	71,93	-36,29	6,00
Elect. Cable	W3	N		0,0	62,17	-16,57	6,50
FUEL GAS - FSO Riser 6" RO-01	W4	N		0,0	61,17	-16,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N		0,0	50,50	-16,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N		0,0	52,29	-16,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N		0,0	48,77	-36,29	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	84,58	-24,00	46,62
Production Warehouse	SD-02	10%	5,2	86,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	89,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	49,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,62
Crew & Stores @ SD	0		68,1	61,83	-2,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	3P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	0P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	20,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 10)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	58,39	0,00	9,76

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,00	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,00	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	83,51	0,65	37,88
Pump Store Fwd	TT-02	10%	0,8	49,28	0,65	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	3,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,68
Store	TT-09	5%	3,0	69,19	-5,33	37,68
Electrical Workshop	TT-10	10%	3,0	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,80	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	76,24	1,41	37,70

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,87
Dock Locker	MD-02	5%	1,4	48,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,87
Crew & Stores @ MD	0		7,4	52,10	8,51	43,87

Helicoptor & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicoptor	HD	0%	0,0	21,10	-30,50	46,00
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	6,43	43,00
Compression B Laydown	LD-05	50%	28,0	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,20	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	0,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-10,00	43,58
Multipurpose Court	LD-11	60%	127,2	39,37	1,28	43,00
Helicoptor & Laydown Areas	0		298,7	52,97	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
Anchors (2 off)	0		36,0	35,31	0,00	12,20
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			36,0	35,31	0,00	12,20

Loading Condition: Ballast Down to Survival Draft - Stage 3
Transit Draft = 12.1m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	37%	302	13,73	-36,66	2,41	0,003	0,036
SW Ballast 4S	798,3	1,025	55%	451	13,73	36,66	3,51	0,003	0,036
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	87%	494	26,94	-36,18	5,32	0,002	0,015
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,002	0,015
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	47%	373	98,66	-36,37	2,99	0,003	0,029
SW Ballast 20S	768,2	1,025	49%	384	98,59	36,27	3,07	0,003	0,029
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				7181	40,49	1,15	4,40	0,01	0,16

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	7181,0	40,5	1,1	4,40	0,014	0,160
Displacement	**40990,6**	**57,272**	**-0,020**	**24,75**	**0,017**	**0,161**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	12,1 m
LCB (from FP)	57,27 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,95 m
LCF (from FP)	58,08 m
TCF (+ve stbd)	-0,02 m
MCHC	216,40 m
MCTC	281,27 m
TPC	35,47 T/cm

Draft, Heel & Trim
(Input from Stability Software)

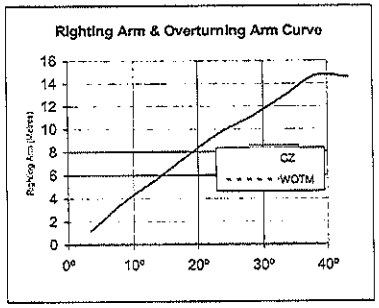
Draft Aft Perpendicular (INPUT)	12,10 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	12,100 m
Mean Draft @ Amidships	12,100 m
Mean Draft Forward	12,100 m

Statical Stability

Corrected VCG =	24,77 m	24,91 m
KMT / KML =	65,80 m	102,30 m
GMT / GML =	41,03 m	77,39 m

Stability Margin

Allowable VCG =	65,50 m
Stability Margin =	40,59 m



Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8p	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	13P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	13S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	193,8	84,58	-20,09	25,00	0,000	0,000
Pot Water Tk	1S	100%	1,000	193,8	84,58	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,30	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,66	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,64	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,85	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	15,19	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,32	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,8	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	78,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,04	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T05101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T05105	100%	0,900	0,3	75,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T05106	100%	0,900	0,3	34,65	-30,07	40,97	0,000	0,000
Mooring Winch LO Storage	T05107	100%	0,900	0,3	23,33	28,10	40,97	0,000	0,000
Mooring Winch LO Storage	T05108	100%	0,900	0,3	91,04	30,07	40,96	0,000	0,000
Cm. Gen. LO Storage	T05109	100%	0,900	0,5	48,60	-22,17	45,00	0,000	0,000
WI Room LO Storage	T05110	100%	0,900	0,6	35,67	-22,20	3,43	0,000	0,000
WI Room LO Storage	T05111	100%	0,900	0,6	35,67	22,20	3,44	0,000	0,000
Turbine Lube Oil Console 'C'	UQ-122308	0%	0,900	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Lube Oil Console 'B'	UQ-122306	0%	0,900	0,0	89,66	9,55	49,24	0,000	0,000
Turbine Lube Oil Console 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,02	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,91	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.L.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,06	-23,73	27,00	0,000	0,000
Deaerator Tower (Stark)	C-52001	0%	1,000	0,0	85,06	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	94,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,25	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	86,77	-6,08	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Reliet	AS8001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Helifuel Disp	AS8002	100%	1,000	0,1	26,01	-19,20	43,10	0,000	0,000
Incinerator DO Day Tank	T59305	100%	0,870	0,2	21,66	28,76	43,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExansionTank	T55102	100%	1,000	0,5	64,97	-0,20	52,91	0,000	0,000
Oily Water Separators	V-60201/V-60202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,06	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	0,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-0,03	44,15	0,000	0,000

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-16,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	64,74	-16,71	18,81	0,000	0,000
Turbine Cooling Water	UQ-122308	0%	1,000	0,0	89,67	24,55	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UQ-882503	0%	0,900	0,0	58,48	13,14	44,88	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-882501-02	0%	0,900	0,0	91,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-882502	0%	0,900	0,0	54,48	18,66	37,38	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-882501-01	0%	0,900	0,0	50,68	17,80	37,52	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	46,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	46,10	-3,22	63,78	0,000	0,000
Skim Pile Mutrix Separator	V-06212	0%	0,900	0,0	99,51	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,93	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,97	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	82,58	30,50	45,06	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,99	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,08	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-041202	0%	0,820	0,0	63,97	-10,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	56,84	22,58	40,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,89	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	58,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,800	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,96	-21,00	44,79	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	26,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	20,90	46,56	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	70,29	31,85	48,85	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,85	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,08	48,85	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Contents				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-15,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,75	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,28	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	49,64	18,57	6,32
LOC-A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,28	18,57	6,22
I-1-04	E17,E18	N	0,0	57,28	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-11	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
Inj. Quim. (M/Fld) Riser UMB8"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMB12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 8"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	O	0,0	0,00	0,00	0,00
SCR-OAC Riser 10" RG-02	RG-2	N	0,0	71,83	-36,29	6,50
Elect. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RO-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,29	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	48,77	-36,29	0,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,58	-24,00	40,82
Production Warehouse	SD-02	10%	5,2	88,60	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,02
Crew & Stores @ SD	9		98,1	61,83	-0,04	41,00

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	66,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	25,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	66,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	25,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,6	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @ TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,8	63,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	9,85	37,88
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,16	37,88
Mech Workshop	TT-05	10%	10,0	65,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	69,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,6	61,88	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @ TT	0		55,8	78,24	1,41	37,78

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	65,89	8,51	43,97
Dock Locker	MD-02	5%	1,4	48,89	8,51	43,97
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,97
Crew & Stores @ MD	0		7,4	52,10	8,51	43,97

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-33,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	19,07	43,00
Misc Laydown 1	LD-02	40%	30,0	38,55	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	30,27	-11,26	43,00
Compression A Laydown	LD-04	50%	29,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,0	95,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,04	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		299,7	56,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
Anchors (2 off)	0	36,0	35,31	0,00	12,20
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		36,0	35,31	0,00	12,20

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Loading Condition: Ballast Down to Survival Draft - Stage 2
Transit Draft = 11.7m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	21%	169	13,73	36,66	1,41	0,003	0,036
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	87%	494	26,94	-36,18	5,32	0,002	0,015
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,002	0,015
SW Ballast 11P	644,7	1,025	99%	654	51,06	-30,81	4,53	0,000	0,000
SW Ballast 11S	644,7	1,025	99%	654	51,06	30,81	4,53	0,000	0,000
SW Ballast 13P	644,7	1,025	99%	654	61,72	-30,81	4,53	0,000	0,000
SW Ballast 13S	644,7	1,025	99%	654	61,72	30,81	4,53	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				5864	35,78	1,41	5,01	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	5864,1	35,8	1,4	5,01	0,006	0,066
Displacement	**39673,6**	**57,132**	**-0,019**	**25,52**	**0,009**	**0,068**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	11,7 m
LCB (from FP)	57,24 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,73 m
LCF (from FP)	58,09 m
TCF (+ve stbd)	-0,02 m
MCHC	214,08 m
MCTC	279,19 m
TPC	35,20 T/cm

Draft, Heel & Trim
(Input from Stability Software)

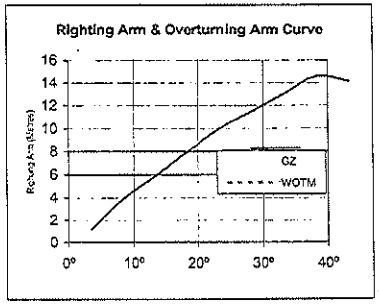
Draft Aft Perpendicular (INPUT)	11,66 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,08°
Heel about centreline	0,001 m
Trim About aft perp.	0,157 m
Mean Draft Aft	11,658 m
Mean Draft @ Amidships	11,737 m
Mean Draft Forward	11,815 m

Statical Stability

Corrected VCG =	25,53 m	25,59 m
KMT / KML =	67,60 m	105,20 m
GMT / GML =	42,07 m	79,61 m

Stability Margin

Allowable VCG =	67,30 m
Stability Margin =	41,71 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	6P	0%	1,000	0,0	40,25	-29,31	0,00	0,000	0,000
Drill Water Tanks	6S	0%	1,000	0,0	40,25	29,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	189,8	84,56	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	189,8	84,56	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,98	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	26,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,91	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,91	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	0,2	78,94	-17,70	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	35,43	0,000	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,81	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	19,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,99	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,62	38,10	0,000	0,000
DOSett	N4S	100%	0,870	73,5	79,15	15,62	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	46,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	78,13	-3,56	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Stbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,87	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	29,19	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	91,04	30,07	40,86	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,60	-22,17	46,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consule 'C'	UQ-122308	0%	0,900	0,0	89,87	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UQ-122306	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UQ-122304	0%	0,900	0,0	89,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	65,81	-1,02	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-26,31	0,08	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	26,31	0,08	0,000	0,000
W.L.L ring Drain Tank	P	0%	1,000	0,0	77,13	-36,77	1,22	0,000	0,000
W.L.L ring Drain Tank	S	0%	1,000	0,0	77,13	36,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,06	-23,73	27,80	0,000	0,000
Deaerator Tower (Starb)	C-52001	0%	1,000	0,0	85,06	23,73	27,80	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Alt Column Separator Tank	N1P	0%	1,000	0,0	79,72	-26,29	35,10	0,000	0,000
Alt Column Separator Tank	N1S	0%	1,000	0,0	79,72	26,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	66,77	-6,08	25,92	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Hollfuel Refusl	A58001	100%	1,000	7,9	34,55	-12,53	43,92	0,000	0,000
Hollfuel Disp	A58002	100%	1,000	0,1	28,91	-18,20	45,10	0,000	0,000
Incinerator DO Day Tank	T56305	100%	0,870	0,2	21,66	26,76	45,94	0,000	0,000
FW Chem Dosing Tank	T55101	100%	1,000	2,0	63,02	-5,30	52,91	0,000	0,000
FW Cooling ExpansionTank	T55102	100%	1,000	0,5	64,97	-8,20	52,91	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TQ-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	6,44	46,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-0,03	44,15	0,000	0,000

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UQ-122301	0%	0,850	0,0	92,29	-28,51	47,27	0,000	0,000
Oil Separation - Train B	UQ-122302	0%	0,850	0,0	92,28	-18,53	47,34	0,000	0,000
Oil Separation - Heating	UQ-122303	0%	0,850	0,0	77,27	-20,01	47,49	0,000	0,000
Production Caisson	TD-533601	0%	0,900	0,0	84,74	-16,71	19,81	0,000	0,000
Turbine Cooling Water	UQ-122305	0%	1,000	0,0	89,67	24,65	49,23	0,000	0,000
Turbine Cooling Water	UQ-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UQ-122304	0%	1,000	0,0	89,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical injection Packag	UQ-662503	0%	0,900	0,0	69,48	13,14	44,98	0,000	0,000
Oil Chemical Injection (Skid 2)	UQ-662501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UQ-662502	0%	0,900	0,0	54,46	18,66	37,35	0,000	0,000
Oil Chemical Injection (Skid 1)	UQ-662501-01	0%	0,900	0,0	50,68	17,60	37,52	0,000	0,000
Chemical Inj'n Package (Water Inj)	A42001	0%	0,900	0,0	61,50	17,80	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,33	63,78	0,001	0,000
Cooling Med Exp Vessel	V-612401	0%	1,000	0,0	48,10	-5,22	63,78	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	59,61	-13,30	43,92	0,000	0,000
Glycol Regeneration Package	UQ-123302	0%	1,080	0,0	57,13	16,03	45,38	0,000	0,000
TEG Contactor Towers	UQ-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	62,88	30,00	45,90	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,69	14,72	39,05	0,000	0,000
Fuel Gas Treatment Package	UQ-513501	0%	1,000	0,0	97,93	23,06	38,55	0,000	0,000
LP KO Drum Package + Pumps	UQ-541202	0%	0,820	0,0	63,87	-16,36	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	58,84	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UQ-512101	0%	1,025	0,0	32,98	15,20	44,42	0,000	0,000
Seawater Supply Pumps contents	B-511102A/B/C	0%	1,025	0,0	58,39	5,25	20,00	0,000	0,000
Water Injection System (inc Piping)	UQ-125101	0%	1,025	0,0	74,40	0,00	17,67	0,000	0,000
Process Piping & Valves		0%	0,880	0,0	60,40	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,68	44,78	0,000	0,000
Cooling Medium Package	UQ-512401-01	0%	1,000	0,0	28,81	17,04	48,23	0,000	0,000
Heating Medium Package & Piping	UQ-512501-01	0%	0,965	0,0	31,81	23,90	46,50	0,000	0,000
Process Gas Module 'C'	UQ-122309	0%	0,650	0,0	79,28	31,85	48,85	0,000	0,000
Process Gas Module 'B'	UQ-122307	0%	0,650	0,0	79,28	16,85	48,85	0,000	0,000
Process Gas Module 'A'	UQ-122305	0%	0,650	0,0	79,28	2,00	48,85	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install		Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N		0,0	24,34	-15,27	6,80
P-1-16	N4,N5,N6	N		0,0	24,34	-12,27	6,80
P-1-08	N7,N8,N9	N		0,0	24,34	14,75	6,80
FUTURE	N10,N11	N		0,0	24,34	17,27	6,50
I-1-01	E1,E2	N		0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N		0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N		0,0	46,64	18,57	6,32
LOC A	E9,E10,E11	N		0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N		0,0	52,64	18,57	6,32
I-1-03	E15,E16	N		0,0	55,26	18,57	6,22
I-1-04	E17,E18	N		0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N		0,0	59,64	18,57	6,32
P-1-18	E22,E23,E24	N		0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N		0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N		0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N		0,0	71,64	18,57	6,32
I-1-05	S1,S2	N		0,0	92,44	15,13	29,25
P-1-05	S3,S4,S5	N		0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N		0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N		0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N		0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N		0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N		0,0	92,44	2,00	29,25
Inj. Gum. (M/Fld) Riser UMB6"	S15	N		0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N		0,0	92,44	0,50	29,25
Control Line (M/F) Riser UMB12"	S17	N		0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N		0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N		0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N		0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N		0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N		0,0	92,44	-6,67	29,25
FUTURE (WI) F1/I1	S24,S25	N		0,0	92,44	-8,67	29,25
SPARE (F1 / LOC H)	S26,S27,S28	N		0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N		0,0	92,44	-14,25	29,25
Optical Cable	S32	N		0,0	92,44	-16,00	29,25
SPARE	W1	0		0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N		0,0	71,63	-36,29	6,00
Elocr. Cable	W3	N		0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N		0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N		0,0	53,58	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N		0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N		0,0	48,77	-36,20	6,00
Connected Risers	0			0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	6%	10,0	84,56	-24,00	40,02
Production Warehouse	SD-02	10%	5,2	86,00	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,02	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	6,0	40,21	8,48	40,92
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,92
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	50%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		68,1	61,83	-0,64	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1aP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 8)	8P	450	85,3	26,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 6)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4aS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,73	33,48	13,72
Chain Onboard	0	7200	1364,8	56,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,63	36,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	36,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	36,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	36,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	36,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	36,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	36,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	36,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-36,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-36,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-36,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-36,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-36,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-36,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-36,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-36,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,6	63,51	9,85	37,86
Pump Store Fwd	TT-02	10%	0,8	49,20	9,85	37,86
Mech Store 1	TT-03	10%	4,2	88,40	-31,10	37,98
Mech Store 2	TT-04	10%	3,1	61,40	-32,13	37,98
Mech Workshop	TT-05	10%	10,0	85,97	-23,86	37,58
Production Warehouse	TT-06	10%	5,1	86,01	24,15	37,58
Production Warehouse	TT-07	10%	5,2	80,61	24,00	37,58
Store	TT-08	5%	4,1	82,00	31,44	37,68
Store	TT-09	5%	3,0	69,19	-5,33	37,68
Electrical Workshop	TT-10	10%	3,3	75,27	-8,10	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Central Caisson Laydown Area	TT-13	10%	0,0	61,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,67	22,62	37,58
Instrumentation Workshop	TT-15	10%	6,1	73,19	23,30	37,58
Crew & Stores @TT	0		55,8	78,24	1,41	37,76

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	85,89	8,51	43,67
Deck Locker	MD-02	5%	1,4	48,89	8,51	43,67
Marine Equipment Storage	MD-03	10%	4,6	48,89	8,51	43,67
Crew & Stores @ MD	0		7,4	57,10	8,51	43,67

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HD	0%	0,0	21,10	-35,80	48,90
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,07	43,00
Misc Laydown 1	LD-02	40%	30,0	36,05	-3,52	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,28	43,00
Compression A Laydown	LD-04	50%	20,6	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	29,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	99,44	30,80	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,24	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	109,05	-19,00	36,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		295,7	59,07	5,21	43,00

Miscellaneous Items	ID	Weight	LCG	TCG	VCG
Anchors (2 off)	0	36,0	35,31	0,00	12,20
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
0	0	0,0	0,00	0,00	0,00
		36,0	35,31	0,00	12,20

Units are as follows: Weight - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

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Loading Condition: Ballast Down to Survival Draft - Stage 1
Transit Draft = 11.0m

NOBLE DENTON

Sea Water Ballast Tanks	Max Vol. m³	Density t/m³	%	Weight tonnes	LCG m	TCG m	VCG m	FSC_T m	FSC_L m
SW Ballast 1P	886,7	1,025	99%	900	9,50	-24,47	6,72	0,000	0,000
SW Ballast 1S	886,7	1,025	99%	900	9,50	24,47	6,72	0,000	0,000
SW Ballast 2P	877,6	1,025	1%	9	6,78	-30,71	0,08	0,000	0,000
SW Ballast 2S	877,6	1,025	1%	9	6,78	30,71	0,08	0,000	0,000
SW Ballast 3P	728,7	1,025	1%	7	16,71	-30,88	0,06	0,000	0,000
SW Ballast 3S	728,7	1,025	1%	7	16,71	30,88	0,06	0,000	0,000
SW Ballast 4P	798,3	1,025	1%	8	13,73	-36,66	0,09	0,000	0,000
SW Ballast 4S	798,3	1,025	21%	169	13,73	36,66	1,41	0,003	0,039
SW Ballast 5P	256,6	1,025	1%	3	27,71	-22,82	0,02	0,000	0,000
SW Ballast 5S	256,6	1,025	1%	3	27,71	22,82	0,02	0,000	0,000
SW Ballast 6P	523,9	1,025	1%	5	28,19	-31,74	0,03	0,000	0,000
SW Ballast 6S	523,9	1,025	1%	5	28,19	31,74	0,03	0,000	0,000
SW Ballast 7P	555,2	1,025	87%	494	26,94	-36,18	5,32	0,002	0,016
SW Ballast 7S	555,2	1,025	99%	561	26,94	36,18	6,03	0,002	0,016
SW Ballast 11P	644,7	1,025	1%	7	51,06	-30,81	0,05	0,000	0,000
SW Ballast 11S	644,7	1,025	1%	7	51,06	30,81	0,05	0,000	0,000
SW Ballast 13P	644,7	1,025	1%	7	61,72	-30,81	0,05	0,000	0,000
SW Ballast 13S	644,7	1,025	1%	7	61,72	30,81	0,05	0,000	0,000
SW Ballast 16P	249,7	1,025	1%	3	85,17	-22,72	0,02	0,000	0,000
SW Ballast 16S	249,7	1,025	1%	3	85,17	22,72	0,02	0,000	0,000
SW Ballast 17P	523,9	1,025	1%	5	84,58	-31,74	0,03	0,000	0,000
SW Ballast 17S	523,9	1,025	1%	5	84,58	31,74	0,03	0,000	0,000
SW Ballast 18P	555,2	1,025	1%	6	85,84	-36,18	0,07	0,000	0,000
SW Ballast 18S	555,2	1,025	1%	6	85,84	36,18	0,07	0,000	0,000
SW Ballast 19P	728,8	1,025	1%	7	96,07	-30,88	0,06	0,000	0,000
SW Ballast 19S	728,8	1,025	1%	7	96,07	30,88	0,06	0,000	0,000
SW Ballast 20P	768,2	1,025	1%	8	98,66	-36,37	0,08	0,000	0,000
SW Ballast 20S	768,2	1,025	1%	8	98,59	36,27	0,08	0,000	0,000
SW Ballast 21P	963,7	1,025	1%	10	103,87	-24,48	0,07	0,000	0,000
SW Ballast 21S	963,7	1,025	1%	10	103,87	24,48	0,07	0,000	0,000
SW Ballast 22P	1067,3	1,025	1%	11	106,75	-31,15	0,07	0,000	0,000
SW Ballast 22S	1067,3	1,025	1%	11	106,75	31,15	0,07	0,000	0,000
SW Ballast 23P	665,6	1,025	1%	7	28,02	-27,55	12,23	0,000	0,000
SW Ballast 23S	665,6	1,025	1%	7	28,02	27,55	12,23	0,000	0,000
SW Ballast 24P	980,8	1,025	1%	10	28,00	-26,33	9,18	0,000	0,000
SW Ballast 24S	980,8	1,025	1%	10	28,00	26,33	9,18	0,000	0,000
SW Ballast 25P	665,6	1,025	1%	7	84,76	-27,55	12,23	0,000	0,000
SW Ballast 25S	665,6	1,025	1%	7	84,76	27,55	12,23	0,000	0,000
SW Ballast 26P	980,8	1,025	1%	10	84,77	-26,33	9,18	0,000	0,000
SW Ballast 26S	980,8	1,025	1%	10	84,77	26,33	9,18	0,000	0,000
SW Ballast Total				3274	19,48	2,53	5,39	0,01	0,07

	BY	Sign	Date
Prepared			
Checked			

Item	Weight tonnes	LCG from FP	TCG m from CL	VCG m	FSC_T m	FSC_L m
Inclined Lightship	31164,5	60,6	-0,3	29,7	0,000	0,000
Drill Water Tanks (Process FW)	0,0	0,0	0,0	0,0	0,000	0,000
Potable Water	402,7	84,4	0,2	26,4	0,000	0,000
Fuel Oil	15,8	78,9	1,7	35,4	0,001	0,000
Diesel Oil	374,0	76,1	-3,6	39,1	0,001	0,000
Lub Oils	7,9	65,8	-1,6	24,3	0,000	0,000
Miscellaneous Tanks	2,1	66,8	-6,1	25,8	0,000	0,001
Non Structural Tanks	12,1	45,6	-9,0	44,2	0,000	0,000
Crew & Stores @TT	55,8	78,2	1,4	37,7	0,000	0,000
Crew & Stores @ SD	68,1	61,8	-0,6	41,1	0,000	0,000
Crew & Stores @ MD	7,4	52,1	8,5	43,9	0,000	0,000
Helicopter & Laydown Areas	298,7	52,1	5,2	43,0	0,000	0,000
Process Content	0,0	0,0	0,0	0,0	0,001	0,000
Vertical Mooring Forces	0,0	0,0	0,0	0,0	-	-
Chain Onboard	1364,6	56,4	0,0	9,8	-	-
Connected Risers	0,0	0,0	0,0	0,0	-	-
Miscellaneous Items	36,0	35,3	0,0	12,2	0,000	0,000
Void Spaces	0,0	0,0	0,0	0,0	-	-
SW Ballast	3273,8	19,48	2,53	5,39	0,007	0,071
Displacement	**37083,4**	**57,18**	**-0,02**	**26,99**	**0,010**	**0,072**

HydroStatic Properties (Sea Water p = 1.025 T/m³)

MEAN DRAFT	11,0 m
LCB (from FP)	57,18 m
TCB (+ve Stbd)	-0,02 m
VCB (USK)	5,36 m
LCF (from FP)	58,17 m
TCF (+ve stbd)	-0,02 m
MCHC	207,58 m
MCTC	270,10 m
TPC	33,56 T/cm

Draft, Heel & Trim
(Input from Stability Software)

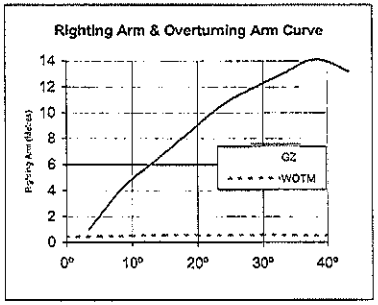
Draft Aft Perpendicular (INPUT)	11,00 m
Heel about centreline (INPUT)	0,00°
Trim About aft perp. (INPUT)	0,00°
Heel about centreline	0,000 m
Trim About aft perp.	0,000 m
Mean Draft Aft	11,000 m
Mean Draft @ Amidships	11,000 m
Mean Draft Forward	11,000 m

Statical Stability

Corrected VCG =	27,00 m	27,06 m
KMT / KML =	70,50 m	109,20 m
GMT / GML =	43,50 m	82,14 m

Stability Margin

Allowable VCG =	44,90 m
Stability Margin =	17,84 m



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Summary Breakdown of Deadweight Loads

NOBLE DENTON

Drill Water Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drill Water Tanks	8p	0%	1,000	0,0	40,25	-23,31	0,00	0,000	0,000
Drill Water Tanks	8S	0%	1,000	0,0	40,25	23,31	0,00	0,000	0,000
Drill Water Tanks	9P	0%	1,000	0,0	40,53	-31,35	0,00	0,000	0,000
Drill Water Tanks	9S	0%	1,000	0,0	40,53	31,35	0,00	0,000	0,000
Drill Water Tanks	14P	0%	1,000	0,0	72,39	-24,38	0,00	0,000	0,000
Drill Water Tanks	14S	0%	1,000	0,0	72,39	24,38	0,00	0,000	0,000
Drill Water Tanks	15P	0%	1,000	0,0	72,34	-30,45	0,00	0,000	0,000
Drill Water Tanks	15S	0%	1,000	0,0	72,34	30,45	0,00	0,000	0,000
Drill Water Tanks (Process FW)	0			0,0	0,00	0,00	0,00	0,000	0,000

Potable Water	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Pot Water Tk	1P	100%	1,000	163,8	84,36	-29,99	25,90	0,000	0,000
Pot Water Tk	1S	100%	1,000	163,8	84,36	29,99	25,90	0,000	0,000
Pot Water Day Tk	0	100%	1,000	15,2	78,87	4,88	38,10	0,000	0,000
Potable Water	0			402,7	84,36	0,19	28,37	0,000	0,000

Fuel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
FO Tank	10P	0%	0,960	0,0	51,05	-23,01	0,00	0,000	0,000
FO Tank	10S	0%	0,960	0,0	51,05	23,01	0,00	0,000	0,000
FO Tank	12P	0%	0,960	0,0	61,72	-23,86	0,00	0,000	0,000
FO Tank	12S	0%	0,960	0,0	61,72	23,92	0,00	0,000	0,000
FO Overflow	P	50%	0,960	8,2	78,64	-17,79	35,43	0,001	0,000
FO Overflow	S	50%	0,960	7,6	78,87	22,86	36,43	0,001	0,000
Fuel Oil	0			15,8	78,91	1,72	35,43	0,001	0,000

Diesel Oil	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
DO Sludge	N1P	0%	0,870	0,0	67,61	-15,62	0,00	0,000	0,000
DO Sludge	N1S	0%	0,870	0,0	78,58	10,10	0,00	0,000	0,000
DO Settle	N1P	100%	0,870	105,3	74,52	-13,90	39,39	0,000	0,000
DO Day Tk	N2P	100%	0,870	110,6	74,60	-17,44	39,37	0,001	0,000
DO Day Tk	N3S	100%	0,870	73,5	82,01	15,02	38,10	0,000	0,000
DOSolid	N4S	100%	0,870	73,5	79,15	15,02	38,10	0,000	0,000
DO Service	0	100%	0,870	11,2	48,01	-21,15	47,01	0,000	0,000
Diesel Oil	0			374,0	76,13	-3,58	39,11	0,001	0,000

Lub Oils	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Drains Storage Tank Port	N1P	0%	0,900	0,0	84,85	-22,94	0,00	0,000	0,000
Drains Storage Tank Sbd	N1S	0%	0,900	0,0	84,85	22,94	0,00	0,000	0,000
Waste Oil	N1P	10%	1,000	1,9	80,72	-24,55	21,72	0,000	0,000
Waste Oil	N1S	10%	1,000	1,9	80,72	24,55	21,72	0,000	0,000
Air Compressors LO Storage	T65101	100%	0,900	0,8	78,47	-1,35	40,72	0,000	0,000
Mooring Winch LO Storage	T65105	100%	0,900	0,3	78,17	-30,43	40,77	0,000	0,000
Mooring Winch LO Storage	T65106	100%	0,900	0,3	34,65	-30,07	40,97	0,000	0,000
Mooring Winch LO Storage	T65107	100%	0,900	0,3	23,33	28,10	40,87	0,000	0,000
Mooring Winch LO Storage	T65108	100%	0,900	0,3	21,04	30,07	40,96	0,000	0,000
Em. Gen. LO Storage	T65109	100%	0,900	0,5	48,65	-22,17	45,00	0,000	0,000
WI Room LO Storage	T65110	100%	0,900	0,8	35,87	-22,20	3,43	0,000	0,000
WI Room LO Storage	T65111	100%	0,900	0,8	35,87	22,20	3,44	0,000	0,000
Turbine Lube Oil Consulo 'C'	UO-122308	0%	0,900	0,0	89,07	24,55	49,23	0,000	0,000
Turbine Lube Oil Consule 'B'	UO-122306	0%	0,900	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Lube Oil Consule 'A'	UO-122304	0%	0,900	0,0	80,71	-5,45	49,25	0,000	0,000
Lub Oils	0			7,9	85,81	-1,62	24,31	0,000	0,000

Miscellaneous Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Bilge Holding Tank	P	10%	1,000	0,5	78,49	-28,31	0,09	0,000	0,000
Bilge Holding Tank	S	10%	1,000	0,5	78,49	28,31	0,08	0,000	0,000
W.I.L ring Drain Tank	P	0%	1,000	0,0	77,13	-30,77	1,22	0,000	0,000
W.I.L ring Drain Tank	S	0%	1,000	0,0	77,13	30,77	1,22	0,000	0,000
Deaerator Tower (Port)	C-51001	0%	1,000	0,0	85,08	-23,73	27,00	0,000	0,000
Deaerator Tower (Stard)	C-52001	0%	1,000	0,0	85,08	23,73	27,00	0,000	0,000
Auxiliary Generator DO	GE-514001	100%	0,870	1,0	54,39	-12,50	53,00	0,000	0,000
Aft Column Separator Tank	N1P	0%	1,000	0,0	79,72	-28,29	35,10	0,000	0,000
Aft Column Separator Tank	N1S	0%	1,000	0,0	79,72	28,29	35,10	0,000	0,000
Miscellaneous Tanks	0			2,1	86,77	-6,05	25,82	0,000	0,001

Non Structural Tanks	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Fwd clmn p-tk	T05001A	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001A	0%	1,316	0,0	28,15	-24,23	27,00	0,000	0,000
Fwd clmn p-tk	T05001B	0%	1,316	0,0	25,00	-26,70	27,00	0,000	0,000
Helifuel Reliuol	A56001	100%	1,000	7,9	34,55	-12,53	43,02	0,000	0,000
Helifuel Disp	A56002	100%	1,000	0,1	23,91	-19,20	45,16	0,000	0,000
Incinerator DO Day Tank	T59300	100%	0,870	0,2	21,66	28,76	43,04	0,000	0,000
FW Chem Dosing Tank	T05101	100%	1,000	2,0	69,02	-5,90	52,81	0,000	0,000
FW Cooling ExansionTank	T65102	100%	1,000	0,5	64,97	-5,20	52,01	0,000	0,000
Oily Water Separators	V-66201/V-66202	100%	0,900	1,4	80,77	0,00	29,80	0,000	0,000
Glycol Sump Tank	TO-123301	0%	1,080	0,0	55,23	21,53	37,08	0,000	0,000
Tank Top Sump Tank	V-533605	0%	1,000	0,0	76,22	6,44	48,47	0,000	0,000
Non Structural Tanks	0			12,1	45,58	-9,03	44,15	0,000	0,000

Units are as follows: Weights - metric tonnes, density - metric tonnes per cubic metre, centres of gravity - metres

Process Content	ID	%	Density	Weight	LCG	TCG	VCG	FSCT	FSCL
Oil Separation - Train A	UO-122301	0%	0,850	0,0	92,29	-29,51	47,27	0,000	0,000
Oil Separation - Train B	UO-122302	0%	0,850	0,0	92,28	-18,63	47,34	0,000	0,000
Oil Separation - Heating	UO-122303	0%	0,850	0,0	77,27	-20,01	47,48	0,000	0,000
Production Caisson	TD-533001	0%	0,900	0,0	64,74	-16,71	19,01	0,000	0,000
Turbine Cooling Water	UO-122308	0%	1,000	0,0	89,07	24,55	49,23	0,000	0,000
Turbine Cooling Water	UO-122306	0%	1,000	0,0	89,68	9,55	49,24	0,000	0,000
Turbine Cooling Water	UO-122304	0%	1,000	0,0	80,71	-5,45	49,25	0,000	0,000
Gas/Cond. Chemical Injection Packag	UO-682503	0%	0,900	0,0	58,46	13,14	44,08	0,000	0,000
Oil Chemical Injection (Skid 2)	UO-682501-02	0%	0,900	0,0	61,79	13,04	37,74	0,000	0,000
Sea Water Chemical Injection	UO-682502	0%	0,900	0,0	54,46	18,65	37,36	0,000	0,000
Oil Chemical Injection (Skid 1)	UO-682501-01	0%	0,900	0,0	50,65	17,60	37,32	0,000	0,000
Chemical Injtn Package (Water Inj)	A42001	0%	0,900	0,0	61,56	17,60	38,33	0,000	0,000
Chemical Injection Package (Prod)	A42002	0%	0,900	0,0	55,56	13,40	38,33	0,000	0,000
Heating Med Exp Vessel	V-512501	0%	0,935	0,0	48,12	2,93	63,78	0,001	0,000
Cooling Med Exp Vessel	V-512401	0%	1,000	0,0	48,10	-3,22	63,76	0,000	0,000
Skim Pile Matrix Separator	V-66212	0%	0,900	0,0	99,51	-13,30	43,02	0,000	0,000
Glycol Regeneration Package	UO-123302	0%	1,080	0,0	57,13	16,93	46,36	0,000	0,000
TEG Contactor Towrn	UO-123301	0%	1,080	0,0	57,44	12,87	48,38	0,000	0,000
Safety Gas KO Drum Package	V-122301	0%	0,975	0,0	82,86	30,50	45,96	0,000	0,000
Drains Treatment Package	A45001	0%	1,000	0,0	97,09	14,72	39,08	0,000	0,000
Fuel Gas Treatment Package	UO-513501	0%	1,000	0,0	87,93	23,08	38,95	0,000	0,000
LP KO Drum Package + Pumps	UO-541202	0%	0,820	0,0	63,87	-10,56	44,21	0,000	0,000
Booster Comp Process Pkg	A30003	0%	1,000	0,0	92,94	22,68	46,10	0,000	0,000
Caisson Pumps Antifouling Package	UO-512101	0%	1,025	0,0	32,98	15,26	44,42	0,000	0,000
Seawater Supply Pumps contents	S-511102A/B/C	0%	1,025	0,0	55,39	5,25	20,00	0,000	0,000
Water Injection System (Inc Piping)	UO-125101	0%	1,025	0,0	74,40	0,00	17,07	0,000	0,000
Process Piping & Valves		0%	0,850	0,0	60,46	-0,54	40,07	0,000	0,000
HP Flare KO Drum Skid	A43001	0%	0,820	0,0	59,66	-21,80	44,79	0,000	0,000
Cooling Medium Package	UO-512401-01	0%	1,000	0,0	28,51	17,04	46,23	0,000	0,000
Heating Medium Package & Piping	UO-512501-01	0%	0,935	0,0	31,81	23,90	46,58	0,000	0,000
Process Gas Module 'C'	UO-122309	0%	0,850	0,0	79,28	31,85	48,85	0,000	0,000
Process Gas Module 'B'	UO-122307	0%	0,850	0,0	79,28	18,85	48,85	0,000	0,000
Process Gas Module 'A'	UO-122305	0%	0,850	0,0	79,28	2,06	48,85	0,000	0,000
Industrial Water System Piping		0%	1,000	0,0	56,39	0,00	43,00	0,000	0,000
Process Content				0,0	0,00	0,00	0,00	0,001	0,000

Connected Risers	ID	Install	Weight	LCG	TCG	VCG
P-1-10	N1,N2,N3	N	0,0	24,34	-18,27	8,80
P-1-16	N4,N5,N6	N	0,0	24,34	-12,27	8,80
P-1-08	N7,N8,N9	N	0,0	24,34	14,73	8,80
FUTURE	N10,N11	N	0,0	24,34	17,37	6,50
I-1-01	E1,E2	N	0,0	41,26	18,57	6,22
P-1-09	E3,E4,E5	N	0,0	43,64	18,57	6,32
P-1-13	E6,E7,E8	N	0,0	46,04	18,57	6,32
LOC A	E9,E10,E11	N	0,0	49,64	18,57	6,32
P-1-04	E12,E13,E14	N	0,0	52,64	18,57	6,32
I-1-03	E15,E16	N	0,0	55,26	18,57	6,22
I-1-04	E17,E18	N	0,0	57,26	18,57	6,22
P-1-07	E19,E20,E21	N	0,0	60,64	18,57	6,32
P-1-18	E22,E23,E24	N	0,0	62,64	18,57	6,32
P-1-12	E25,E26,E27	N	0,0	65,64	18,57	6,32
P-1-19	E28,E29,E30	N	0,0	68,64	18,57	6,32
P-1-01	E31,E32,E33	N	0,0	71,64	18,57	6,32
I-1-05	S1,S2	N	0,0	92,44	15,10	29,25
P-1-05	S3,S4,S5	N	0,0	92,44	12,75	29,25
P-1-11	S6,S7,S8	N	0,0	92,44	9,75	29,25
P-1-17	S9,S10,S11	N	0,0	92,44	6,75	29,25
P-1-06 (M/Fld) Riser 6"	S12	N	0,0	92,44	5,00	29,25
P-1-14 (M/Fld) Riser 6"	S13	N	0,0	92,44	3,50	29,25
P-1-03 (M/Fld) Riser 6"	S14	N	0,0	92,44	2,50	29,25
In). Quim. (M/Fld) Riser UMB6"	S15	N	0,0	92,44	1,50	29,25
Service Manifold Riser 4"	S16	N	0,0	92,44	0,50	29,25
Control Umb (M/F) Riser UMD12"	S17	N	0,0	92,44	-0,50	29,25
Gas Lift Riser 6"	S18	N	0,0	92,44	-1,50	29,25
P-1-20 (M/Fld) Riser 6"	S19	N	0,0	92,44	-2,50	29,25
P-1-02 (M/Fld) Riser 6"	S20	N	0,0	92,44	-4,00	29,25
P-1-15 (M/Fld) Riser 6"	S21	N	0,0	92,44	-5,00	29,25
I-1-02	S22,S23	N	0,0	92,44	-6,87	29,25
FUTURE (WI) F1/I1	S24,S25	N	0,0	92,44	-8,87	29,25
SPARE (F1 / LOC H))	S26,S27,S28	N	0,0	92,44	-11,25	29,25
SPARE (RJS-513)	S29,S30,S31	N	0,0	92,44	-14,25	29,25
Optical Cable	S32	N	0,0	92,44	-16,00	29,25
SPARE	W1	N	0,0	0,00	0,00	0,00
SCR-GAS Riser 10" RG-02	RG-2	N	0,0	71,93	-36,29	6,50
Electr. Cable	W3	N	0,0	62,17	-18,57	6,50
FUEL GAS - FSO Riser 6" RG-01	W4	N	0,0	61,17	-18,57	6,18
OIL C - EXPORT Riser 10" RO-03	W5	N	0,0	53,59	-18,57	6,50
OIL B - EXPORT Riser 10" RO-02	W6	N	0,0	52,20	-18,57	6,50
SCR - OIL EXPORT Riser 10" RO-01	RO-1	N	0,0	49,77	-36,29	6,00
Connected Risers	0		0,0	0,00	0,00	0,00

Crew & Stores @ SD	ID	%	Weight	LCG	TCG	VCG
Weld Shop	SD-01	8%	10,0	84,56	-24,00	40,62
Production Warehouse	SD-02	10%	5,2	88,80	24,00	41,12
Warehouse	SD-03	10%	15,0	85,73	-15,62	41,12
Open Store	SD-04	0%	0,0	69,43	-0,23	41,02
Dry Store 1	SD-05	10%	8,0	40,21	8,48	40,52
Dry Store 2	SD-06	10%	4,6	37,21	15,03	40,52
Chilling Room / Freezer	SD-07	20%	12,4	42,47	15,03	41,02
Crew & Effects	0	30%	15,0	45,72	0,00	41,82
Crew & Stores @ SD	0		66,1	61,85	-0,66	41,09

Chain Onboard	ID	Chain	Weight	LCG	TCG	VCG
Chain Locker - Port Aft (Winch 2)	1bP	450	85,3	87,52	-30,50	4,60
Chain Locker - Port Aft (Winch 4)	1bP	450	85,3	81,65	-30,50	4,60
Chain Locker - Port Aft (Winch 3)	5P	450	85,3	86,47	-31,12	16,19
Chain Locker - Port Aft (Winch 1)	9P	450	85,3	91,05	-33,48	13,72
Chain Locker - Port Fwd (Winch 5)	2aP	450	85,3	31,13	-30,50	4,60
Chain Locker - Port Fwd (Winch 7)	2bP	450	85,3	25,26	-30,50	4,60
Chain Locker - Port Fwd (Winch 6)	6P	450	85,3	28,31	-31,12	16,19
Chain Locker - Port Fwd (Winch 8)	10P	450	85,3	21,73	-33,48	13,72
Chain Locker - Stbd Aft (Winch 13)	4bS	450	85,3	81,65	30,50	4,60
Chain Locker - Stbd Aft (Winch 15)	4bS	450	85,3	87,52	30,50	4,60
Chain Locker - Stbd Aft (Winch 14)	8S	450	85,3	86,47	31,12	16,19
Chain Locker - Stbd Aft (Winch 16)	12S	450	85,3	91,05	33,48	13,72
Chain Locker - Stbd Fwd (Winch 10)	3aS	450	85,3	25,26	30,50	4,60
Chain Locker - Stbd Fwd (Winch 12)	3bS	450	85,3	31,13	30,50	4,60
Chain Locker - Stbd Fwd (Winch 11)	7S	450	85,3	26,31	31,12	16,19
Chain Locker - Stbd Fwd (Winch 9)	11S	450	85,3	21,75	33,48	13,72
Chain Onboard	0	7200	1364,8	58,39	0,00	9,78

Vertical Mooring Forces	ID	Tension	Weight	LCG	TCG	VCG
Mooring Line (Winch 9)	S1	0	0,0	24,83	38,00	18,29
Mooring Line (Winch 10)	S2	0	0,0	28,19	38,00	18,29
Mooring Line (Winch 11)	S3	0	0,0	31,75	38,00	18,29
Mooring Line (Winch 12)	S4	0	0,0	35,31	38,00	18,29
Mooring Line (Winch 13)	S5	0	0,0	81,02	38,00	18,29
Mooring Line (Winch 14)	S6	0	0,0	84,58	38,00	18,29
Mooring Line (Winch 15)	S7	0	0,0	88,14	38,00	18,29
Mooring Line (Winch 16)	S8	0	0,0	91,70	38,00	18,29
Mooring Line (Winch 8)	P1	0	0,0	24,63	-38,00	18,29
Mooring Line (Winch 7)	P2	0	0,0	28,19	-38,00	18,29
Mooring Line (Winch 6)	P3	0	0,0	31,75	-38,00	18,29
Mooring Line (Winch 5)	P4	0	0,0	35,31	-38,00	18,29
Mooring Line (Winch 4)	P5	0	0,0	81,02	-38,00	18,29
Mooring Line (Winch 3)	P6	0	0,0	84,58	-38,00	18,29
Mooring Line (Winch 2)	P7	0	0,0	88,14	-38,00	18,29
Mooring Line (Winch 1)	P8	0	0,0	91,70	-38,00	18,29
Vertical Mooring Forces	0		0,0	0,00	0,00	0,00

Crew & Stores @TT	ID	%	Weight	LCG	TCG	VCG
Pump Store Aft	TT-01	10%	0,0	93,51	9,85	37,88
Pump Store Fwd	TT-02	10%	0,8	49,26	0,85	37,88
Mech Store 1	TT-03	10%	4,2	39,40	-31,10	37,88
Mech Store 2	TT-04	10%	3,1	81,40	-32,18	37,88
Mech Workshop	TT-05	10%	10,0	85,97	-23,85	37,58
Production Warehouse	TT-06	10%	5,1	88,61	24,15	37,58
Production Warehouse	TT-07	10%	5,2	85,51	24,00	37,58
Store	TT-08	5%	4,1	82,90	31,44	37,88
Store	TT-09	5%	3,0	99,19	-5,33	37,88
Electrical Workshop	TT-10	10%	3,3	75,27	-8,16	37,78
Electrical Store	TT-11	10%	4,4	75,27	-1,02	37,78
Hydraulic Workshop	TT-12	10%	3,1	75,37	4,83	37,68
Control Caisson Laydown Area	TT-13	10%	0,6	81,89	-2,75	37,58
Starboard Forward Laydown Area	TT-14	10%	2,0	37,07	22,62	37,58
Instrumentation Workshop	TT-15	10%	0,1	73,19	23,36	37,58
Crew & Stores @TT	0		55,5	78,24	1,41	37,76

Crew & Stores @ MD	ID	%	Weight	LCG	TCG	VCG
Paint Locker	MD-01	5%	1,4	86,89	8,51	43,87
Deck Locker	MD-02	5%	1,4	86,89	8,51	43,87
Marine Equipment Storage	MD-03	10%	4,6	86,89	8,51	43,87
Crew & Stores @ MD	0		7,4	86,89	8,51	43,87

Helicopter & Laydown Areas	ID	%	Weight	LCG	TCG	VCG
Helicopter	HO	0%	0,0	21,10	-35,80	48,60
Tote Tank Laydown	LD-01	40%	30,4	37,14	10,00	43,00
Misc Laydown 1	LD-02	40%	30,0	36,55	-3,62	43,00
Misc Laydown 2	LD-03	40%	21,3	39,27	-11,26	43,00
Compression A Laydown	LD-04	50%	29,8	95,42	0,43	43,00
Compression B Laydown	LD-05	50%	28,3	95,44	15,43	43,00
Compression C Laydown	LD-06	50%	31,9	95,44	30,60	43,00
Turbine A Laydown	LD-07	0%	0,0	73,34	-5,46	43,00
Turbine B Laydown	LD-08	0%	0,0	73,34	9,54	43,00
Turbine C Laydown	LD-09	0%	0,0	73,34	24,54	43,00
Pig Launcher Laydown	LD-10	0%	0,0	106,05	-19,00	30,58
Multipurpose Court	LD-11	60%	127,2	30,37	1,29	43,00
Helicopter & Laydown Areas	0		298,7	52,07	5,21	43,00

Miscellaneous Items	ID		Weight	LCG	TCG	VCG
Anchors (2 off)	0		36,0	35,31	0,00	12,20
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
0	0		0,0	0,00	0,00	0,00
			36,0	35,31	0,00	12,20

COPIA FIEL DO ORIGINAL

DIVISÃO JUDICIÁRIA
3880

Petrobras 36 - Roncador Field Development
Operations Manual - Volume 7
Summary of Ballast Sequence

Ballast Down From Transit Draft (11.0m) to Survival Draft (18.0m)

NOBLE DENTON

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Transit Condition Stage 1	1P	99%					
	1S	99%					
	4S	21%					
	7P	87%					
	7S	99%	11,000	11,000	11,000	0,000	0,000
Stage 2	11P	99%					
	11S	99%					
	13P	99%					
	13S	99%	11,658	11,737	11,815	0,000	0,157
Stage 3	4P	37%					
	4S	55%					
	20P	47%					
	20S	49%	12,100	12,100	12,100	0,000	0,000
Stage 4	4P	84%					
	4S	98%					
	20P	93%					
	20S	99%	12,800	12,800	12,800	0,000	0,000

STAGE	TANK TO FILL	% FULL	CONDITION ON COMPLETION				
			Mean Draft aft (m)	Mean Draft Amidships (m)	Mean Draft Fwd (m)	Heel About CL (m)	Trim About Aft Perp. (m)
Stage 5	2P	99%					
	2S	99%					
	4P	99%					
	4S	99%					
	17P	99%					
	17S	99%					
	18P	99%					
	18S	65%					
	20P	99%					
	21P	9%					
	21S	71%	15,900	15,900	15,900	0,000	0,000
Stage 6	3P	99%					
	3S	99%					
	5P	29%					
	5S	9%					
	18S	99%					
	19P	99%					
	19S	99%					
	21P	18%					
	21S	56%	18,000	18,000	18,000	0,000	0,000

Notes:
1. SW Density assumed 1.025
2. Correction at end of sequence to be made to tanks 5P, 5S, 17P, 17S for level trim
3. -ve trim is trim by the stern

CÓPIA CONTROLADA DOCUMENTO ORIGINAL

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CERTIDÃO

CERTIFICO que, nesta data dei entranhado o 8º Volume do anexo 6 aos autos 19485103 5.26

O referido é verdade e dou fé.

Aos 10 de abril de 200 4.

É CÓPIA FIEL DO DOCUMENTO ORIGINAL