

PERUSAHAAN PERTAMBANGAN MINYAK DAN GAS BUMI NEGARA
PT. PERTAMINA (PERSERO)
DIREKTORAT PEMASARAN & NIAGA BID. PERKAPALAN
MT. ENDURO / PMHP



CHIEF OFFICER ORDER

004/L/ III/2017

01. Loading cargo : HSD 34.000 KL as per LO; and Loading Rate around 1000 KL/Hrs.
02. Loading at COT No. 1X; COT No. 2X; COT No. 3C; COT No. 4X; COT No. 5X and COT No. 6X.
03. Used Cargo Manifold No. 2 (Brown Colour) Via Cross Over and Open Drop Line No. 1;2;3 & 4.
04. Make Ensure that all Scupper Plug was installed.
05. Stand by near manifold FFA and SOPEP Equipment.
06. Loading Sequences as per follow.
First open COT 1C, 2C, 3C, 4C Ten until Fifteen Minutes.
 - Stage I : Loading at COT No. 1 P/S; COT No.2C and COT No. 6P by Ullage 10 Mtr.->7 Mtr. → 1P/S = 300 CM; 2C = 300 CM; 6P/S = 1000 CM
 - State II : Loading at COT . 1 C; COT No.4P/S and COT No. 6C by Ullage 10 Mtr.->7 Mtr. → 1C = 350 CM; 4P/S = 450 CM; 6C = 200 CM
 - Stage III : Loading at COT No. 4 C; and COT 5C by Ullage 10 Mtr.->7 Mtr. → 4C = 350 CM; 5C = 400 CM
 - Stage IV : Loading at COT No. 2P/S, and COT 3C and COT No. 5 P by Ullage 10 Mtr. → 7 Mtr. → 2P/S = 350 CM; 5P/S = 200 CM; 3C = 400 CMCompleted by Shore.
COT No. 3C (Last Tank Stop By Shore).
07. Stand by VHF CH 09 for coordination with L/M.
08. Personal to EES must be coordination and communication with OOW, and must bring Gas Detector Pocket & PPE.
09. AB Duty Must be Security Patrol carried out at all time.
10. Check Mooring Line At All Time.
11. Prevent Oil Polution.
12. Maintain Ship's Steady
13. 1 (ONE) hour before completed Call C/Officer.
14. Good Nice a Job and GBU all.....

DUMAI,08th MARCH 2017.

Prepared by :

FATULLAH ANSHORI

Acknowledge :

1. Second Officer : 

2. Third Officer : 

3. Pump Man A :

4. Pump Man B :

STOWAGE PLAN



Voy No: 004/LI/III/2017

LOADING PORT DUMAI

Date: March 9, 2017

APT	6P 1190,500 M3 SOLAR 26,09 % 10260 mm 310,54 KL	5P 1790,500 M3 SOLAR 90,00 % 2000 mm 1611,40 KL	4P 2088,900 M3 SOLAR 70,62 % 4500 mm 1475,11 KL	BALLAST WATER TANK	2P 1785,000 M3 SOLAR 78,33 % 3500 mm 1398,25 KL	1P 2197,400 M3 SOLAR 79,47 % 3000 mm 1746,36 KL
	6C 4525,400 M3 SOLAR 88,81 % 2000 mm 4019,01 KL	5C 4525,400 M3 SOLAR 73,86 % 4000 mm 3342,24 KL	4C 4525,400 M3 SOLAR 77,61 % 3500 mm 3512,04 KL	3C 4440,600 M3 SOLAR 74,85 % 4000 mm 3323,61 KL	2C 4490,600 M3 SOLAR 81,35 % 3000 mm 3653,33 KL	1C 3807,300 M3 SOLAR 77,90 % 3500 mm 2966,04 KL
	6P 1190,500 M3 SOLAR 28,18 % 9990 mm 335,46 KL	5P 1790,500 M3 SOLAR 90,03 % 2000 mm 1611,90 KL	4P 2088,900 M3 SOLAR 70,59 % 4500 mm 1474,58 KL	BALLAST WATER TANK	2P 1785,000 M3 SOLAR 78,33 % 3500 mm 1398,25 KL	1P 2197,400 M3 SOLAR 66,07 % 3000 mm 1746,36 KL
	TOTAL :					
	33.924					

Cargo - Grade	Load Port	Disch Port	GROUP	STOWAGE	SHIPS FIGURES(KL)	SHORE FIGURES	DIFFERENCE	%
SOLAR	DUMAI				7.792			
					9.935			
					6.854			
			IV (YELLOW)	2W,3C,5W	9.343			
			TOTAL :		33.924			

Remark	SOLAR
Cargo Density 15 :	0,8562
Temp deg C	37,0
T 52	6,293
VCF (T.54)	0,986644

AFTER LOADING Draft
 FWD: 9,80 M
 AFT: 10,80 M
 TRIM: 1,00 M

BEFORE LOAD Draft BW
 FWD: 3,40 M
 AFT: 7,60 M
 TRIM: 4,20 M

Group	Vol. 100%
Cargo Tanks	44.419,3000
Ballast Tanks	16865,840 m3
FO Tanks	391,040 m3
DO Tanks	108,420 m3
LO Tanks	111,130 m3
FW Tanks	600 m3

Prepared By: Cloff. Fatullah Anshori

Acknowledged By : Capt. Muhardi

ENDURO

ULLAGE REPORT

BEFORE - LOADING

COMPANY NAME : PT PERTAMINA (PERSERO) SHIPPING
 VESSEL NAME : ENDURO
 NAME OF CARGO : gas oil / gas oil
 LOADING PORT :

DATE : 08-03-2015
 VOY NO :

TANK NO	ACTUAL ULLAGE (m)	LIST-TRIM CORRECTED ULLAGE(M)	TOTAL OBS VOL (Cu.m)	FRESH WATER		GROSS OBS VOL(GOV) (Cu.m)	DEN AT 15°C (T/Cu. m.)	TEMP (°C)	VOL CORR FACTOR TABLE 54B	GROSS STD VOL (Cu.m)
				DIP	VOL					
COT1C	3.500	3.500	2993.4	0.000	0.00	2993.4	0.8238	30.00	0.9868	2953.862
COT1P	3.000	3.000	1767.6	0.000	0.00	1767.6	0.8238	30.00	0.9868	1744.288
COT1S	3.000	3.000	1767.6	0.000	0.00	1767.6	0.8238	30.00	0.9868	1744.288
COT2C	3.000	3.000	3686.3	0.000	0.00	3686.3	0.8238	30.00	0.9868	3637.611
COT2P	3.500	3.500	1410.7	0.000	0.00	1410.7	0.8238	30.00	0.9868	1392.089
COT2S	3.500	3.500	1410.7	0.000	0.00	1410.7	0.8238	30.00	0.9868	1392.089
COT3C	4.000	4.000	3349.9	0.000	0.00	3349.9	0.8238	30.00	0.9868	3305.832
COT4C	3.500	3.500	3545.4	0.000	0.00	3545.4	0.8238	30.00	0.9868	3498.840
COT4P	4.500	4.500	1490.7	0.000	0.00	1490.7	0.8238	30.00	0.9868	1471.023
COT4S	4.500	4.500	1490.7	0.000	0.00	1490.7	0.8238	30.00	0.9868	1471.023
COT5C	4.000	4.000	3375.9	0.000	0.00	3375.9	0.8238	30.00	0.9868	3331.358
COT5P	2.000	2.000	1623.8	0.000	0.00	1623.8	0.8238	30.00	0.9868	1602.376
COT5S	2.000	2.000	1623.8	0.000	0.00	1623.8	0.8238	30.00	0.9868	1602.376
COT6C	2.000	2.000	4054.0	0.000	0.00	4054.0	0.8238	30.00	0.9868	4000.467
COT6P	10.260	10.260	317.1	0.000	0.00	317.1	0.8238	30.00	0.9868	312.949
COT6S	9.990	9.990	342.0	0.000	0.00	342.0	0.8238	30.00	0.9868	337.528
COT7P	5.660	5.660	350.8	0.000	0.00	350.8	0.8238	30.00	0.9868	346.120
COT7S	6.977	6.977	290.0	0.000	0.00	290.0	0.8238	30.00	0.9868	286.190
TOTAL		TOTAL OBS VOL 34890.4				GROSS OBS VOL 34890.4	GROSS STD VOL 34429.87			

TOTAL OBSERVED VOL (TOV)	FREE WATER	GROSS OBS VOL	VCF	GROSS STD VOL (Cu.m)	WCF	M TONS SHIP (Vacuum)	M TONS SHIP (Air)	M TONS SHORE
34890.4	0.0	34890.4	0.9868	34429.871	0.9987	28363.324	28325.455	0.00

SHIPS DRAFT FORD: 9.83 M AFT: 10.76 M MEAN: 10.30 M LIST: 0.00 Deg

TITLE	MASTER	CHIEF OFFICER	SURVEYOR	TERMINAL REP
NAME				
SIGNATURE				

NOTE :
 Retention Period of Completed Form is 1 years

SHEAR FORCE AND BENDING MOMENT

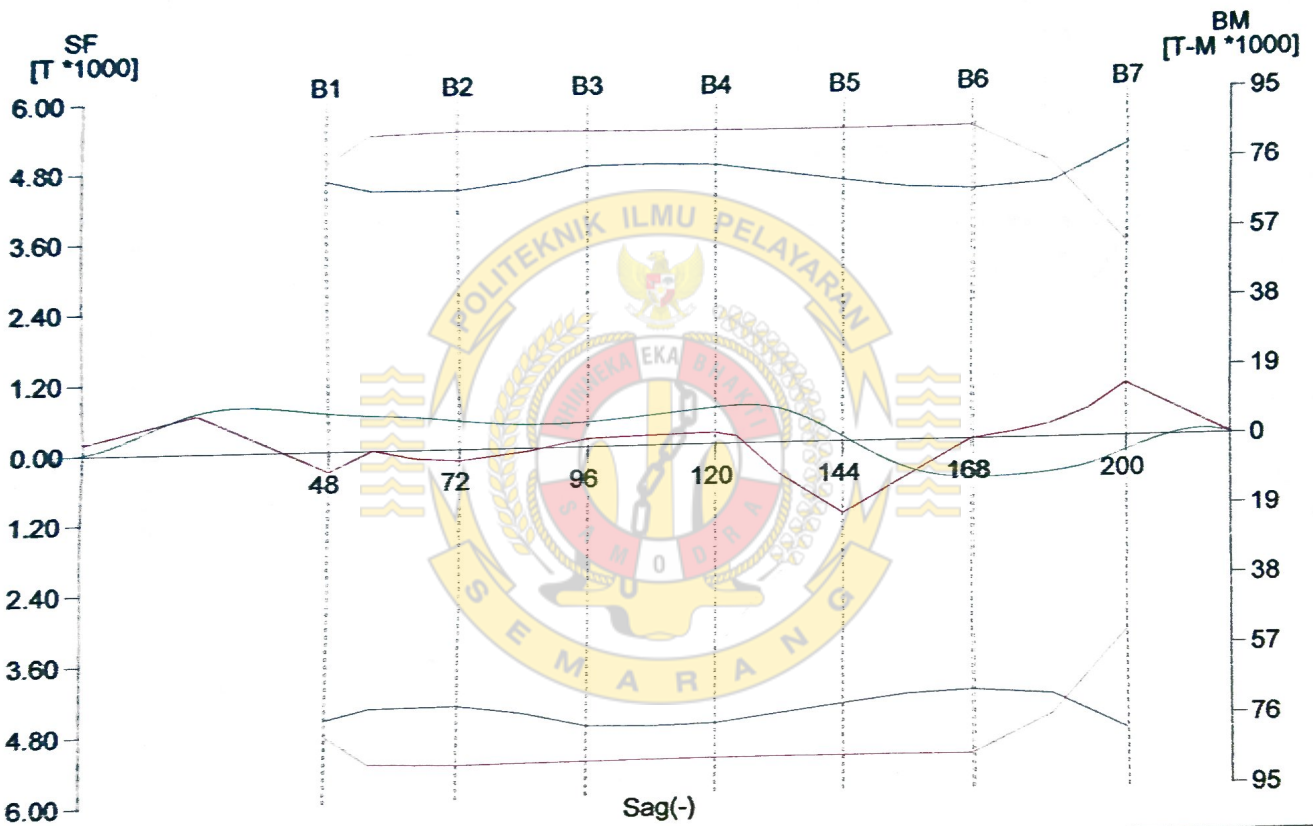
Condition: COPY OF 004 L DUMAI 34000

Description: HSD

State: SEA

Date: 08-03-2015

ENDURO



— SF Curve	— BM Curve	--- Bulkheads
— Allow Hog Curve	— Allow Sag Curve	— Allow SF Curve

	Maximum Value	% of Permissible	Distance	Frame No
SF	-1261.8	-27.7	113.8	144.0
BM	12606.5	15.8	23.7	32.6
SF (Relative)	—	27.7	113.8	144.0
BM (Relative)	—	13.3	36.0	48.0

JUDGEMENTS :

Bending Moment - OK

Shear Force - OK

Page 1

SHEAR FORCE AND BENDING MOMENT

Condition: COPY OF 004 L DUMAI 34000

Description: HSD

State: SEA

Date: 08-03-2015

ENDURO

Frame No.	SF (T)	SF % of Permissible	BM (T-M)	BM % of Permissible
-6.8	0.0	---	0.0	---
0.0	186.9	---	316.1	---
24.0	646.7	---	11177.9	---
48.0	-351.5	7.6	10632.1	13.3
56.0	4.5	0.1	9778.9	11.1
64.0	-151.4	3.4	9184.3	10.4
72.0	-198.1	4.5	8006.8	9.0
84.0	-65.1	1.4	6673.9	7.5
96.0	139.7	2.9	6977.4	7.9
108.0	166.8	3.4	8473.6	9.6
120.0	187.7	3.9	10200.1	11.5
124.0	121.2	2.5	10642.3	12.0
132.0	-553.6	11.8	9539.5	10.8
144.0	-1261.8	27.7	1184.0	1.3
156.0	-632.3	14.4	-7985.0	-9.0
168.0	-9.0	0.2	-11146.5	-12.6
176.0	103.5	2.4	-10843.3	-13.1
184.0	229.0	5.2	-9934.6	-12.7
192.0	476.6	10.1	-8033.6	-12.1
200.0	903.1	18.0	-4272.1	-7.8
225.0	0.0	---	0.0	---

Allowable BM Limit : [BM_LIMIT_1]
ONLY LIMIT PROVIDED

Allowable SF Limit : [SF_LIMIT_1]
ONLY LIMIT PROVIDED

STABILITY REPORT

WEATHER CRITERIA

Condition: COPY OF 004 L DUMAI 34000

Description: HSD

Date: 08-03-2015

ENDURO

Intact Stability (Weather Criteria)

Draft (Mean) = 10.298 M Block Coefficient (Cb) = 0.791

Wind Arm Table

ITEM	AREA (Sq.M)	LEVER(M)	MOMENT(Cu-M)
Hull Up to Main Deck	809.746	7.538	6103.868
Super Structure	460.310	18.681	8598.900
Forecastle Deck	82.210	11.920	979.916
Crane	58.786	14.996	881.535
Aft Mast	11.709	32.662	382.435
Forward Mast	7.438	15.276	113.620
Total	1430.199	11.929	17060.275

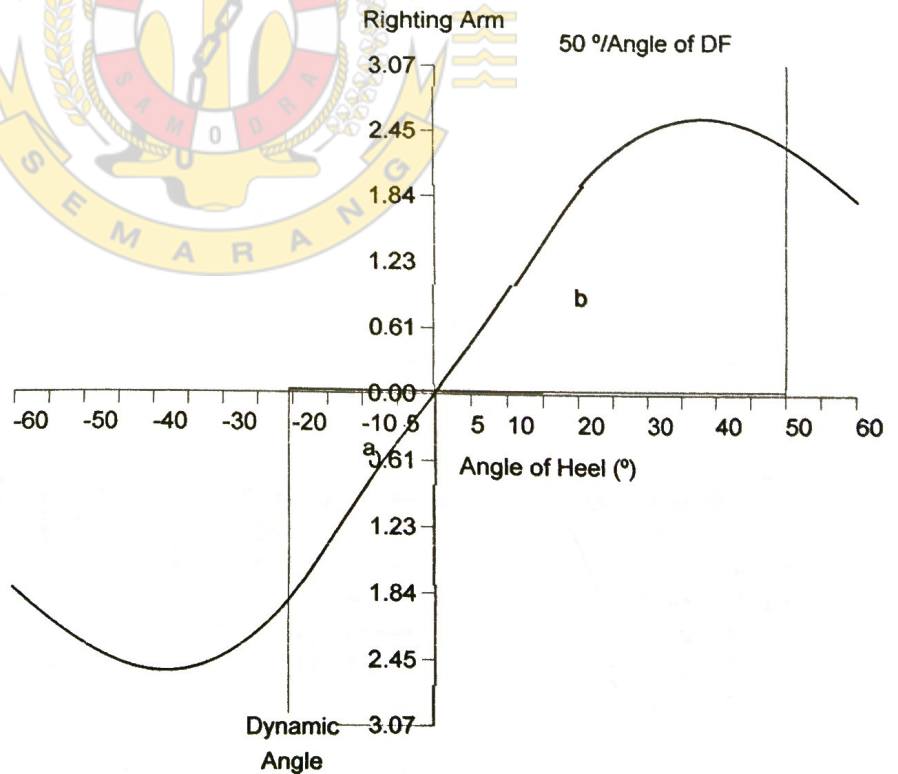
Wind Force	Wind Moment	Wind Heeling Lever (Lw1)	Wind Heeling Lever (Lw2)	State Angle of Equipment	Rolling Period (T)
73.512 T	876.898 T-M	0.020 M	0.029 M	0.217 Deg	10.564 Sec

S (Table)	X1 (Table)	X2 (Table)	K	r	Dynamic Angle of Rolling
0.075	0.878	1.000	1.000	0.627	20.777 Deg

Righting Arm Table

Angle	GZ (M)
5	0.446
10	0.905
20	1.867
30	2.426
40	2.555
50	2.299
60	1.798

Angle of DF = > 50°



RESULTS

Area a = 0.350 M-Rad

Area b = 1.541 M-Rad

JUDGEMENT :

IMO Weather Stability Criteria : OK

STABILITY REPORT

INTACT

Condition: COPY OF 004 L DUMAI 34000
 Description: HSD
 Date: 08-03-2015

ENDURO

DRAFTS, TRIMS & INTACT STABILITY SHEET

Sea Water Density = 1.0250 T/M³
 Displacement = 44897.06 T

LoadLine = 11.223 (Summer Load Line)

DRAFTS & TRIM

Draft AP(USK) = 10.763 M
 Draft FP(USK) = 9.832 M
 Draft (Mean) = 10.298 M

DRAFTS AT MARKS

Draft AFT Marks = 10.758 M
 Draft FWD Marks = 9.837 M
 Trim = 0.931 M

INTACT STABILITY

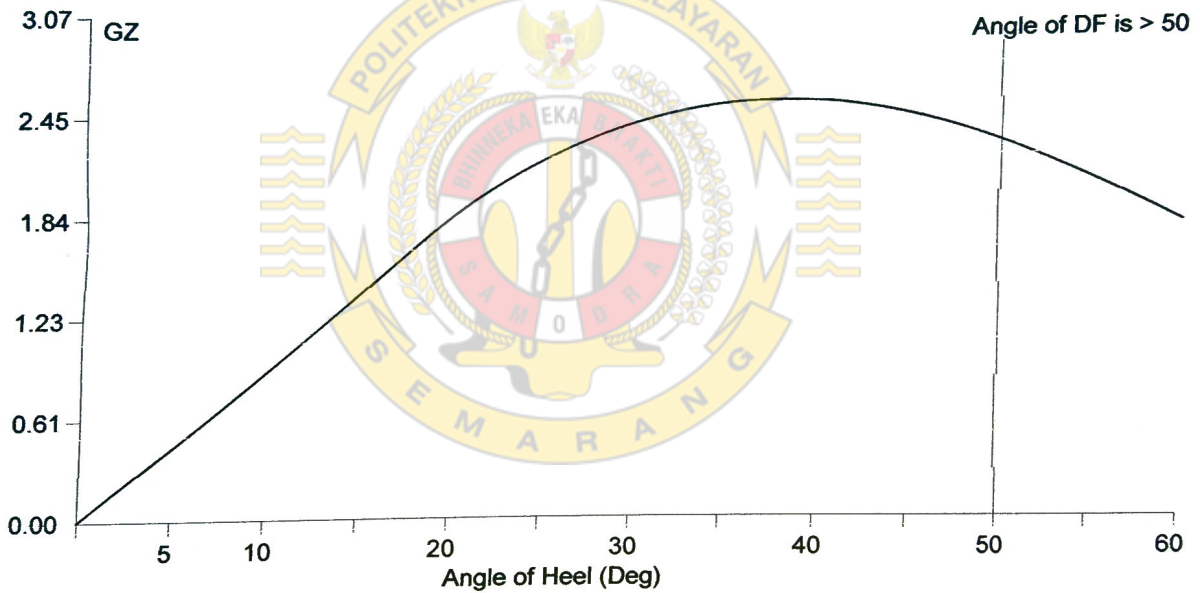
LCB = 87.084 M
 KG = 7.469 M
 GGo = 1.036 M
 KGo = 8.506 M

MCT = 559.809 T-M
 GoMt = 5.072 M
 KMT = 13.578 M

RIGHTING ARM CURVE

Angle (Deg.)	5	10	20	30	40	50	60
KN (M)	1.188	2.382	4.776	6.678	8.022	8.815	9.164
GZ (M)	0.446	0.905	1.867	2.426	2.555	2.299	1.798

KG corrected for FSM of all tanks



COMPLIANCE WITH IMO CRITERIA

	Computed values	Minimum Required
Maximum GZ Occurs at	= 38.08 Deg	25.00 Deg
Area Upto 30 deg	= 0.703 M-rad	0.055 M-rad
Area Upto 40 deg/Angle DF	= 1.143 M-rad	0.090 M-rad
Area 30 deg - 40 deg/Angle DF	= 0.440 M-rad	0.030 M-rad
Maximum GZ	= 2.56 M	0.20 M
GoMt	= 5.07 M	0.15 M

JUDGEMENT :

Loadline Draft : OK
 IMO Stability Criteria : OK