NATIONAL CARGO BUREAU, INC. GRAIN STABILITY CALCULATION

	S.S/M.V.		AT
	COUNTRY OF REGISTRY	NET TONNAGE	OFFICIAL NO.
	THE CREEKE	16555	10135
	AGENT		
	AGENT		
	BARILLE		
	bb l		
	44.5		
	GRAIN LOADING BOOKLET APPRO		
		,	-111/01/01/02
	DRAWING NO.	DATE OF APPROVAL	2007 2700 12 22
	APPLICABLE REGULATIONS	NOTE OF 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	APPLICABLE REGULATIONS	F1114 - 18 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	31/6/2 1/67 1 1 1
	47,5		
	ADDENDUM FOR UNTRIMMED END	S APPROVED BY	
	DRAWING NO.	DATE OF APPROVAL	
	DRAWING NO.	DATE OF AFTHOVAL	
	LOADING PORT	11/5	
	BUNKERING PORTS	276715	
	DISCHARGE PORT		
			220 08
	STEAMING DISTANCE		
	DALLY CONSUMERION, FUEL	A DIESEL	WATER WATER
	DATEY CONSONIFTION: FOEL	MINS THOLE	
	DISPLACEMENT		DRAFT FREEBOARD
	88		
	*WINTER		13443 0365
	10 100		SHIP AND CARD
	SUMMER	09 1074	
	*TROPICAL	SHOW ACTUAL CURIC DCC	PC (AT SUMMER DRAFT)
	FRESH WATER ALLOWANCE * (If Applicable)	TINIST TO THE MEET PROPERTY AND THE PROP	PC (AT SUMMER DRAFT)
	FRESH WATER ALLOWANCE * (If Applicable)	TINIST TO THE MEET PROPERTY AND THE PROP	
ES, ET	* (If Applicable) THIS IS TO CERTIFY THAT: 1. THIS CALCULATION IS P VESSEL'S GRAIN LOADING	REPARED IN ACCORDANC BOOK LET AND THE APPLICA	PC (AT SUMMER DRAFT)
ES, ET	* (If Applicable) THIS IS TO CERTIFY THAT: 1. THIS CALCULATION IS P VESSEL'S GRAIN LOADING	REPARED IN ACCORDANC BOOK LET AND THE APPLICATION OF THE PROPERTY OF THE PROPE	E WITH THE REQUIREMENTS OF THE ABLE GRAIN REGULATIONS;
CAL	* (If Applicable) THIS IS TO CERTIFY THAT: 1. THIS CALCULATION IS P VESSEL'S GRAIN LOADING 2. THE STABILITY OF THE	REPARED IN ACCORDANC BOOK LET AND THE APPLICATION OF THE PROPERTY OF THE PROPE	E WITH THE REQUIREMENTS OF THE ABLE GRAIN REGULATIONS;
CAL (TO BY C	* (If Applicable) THIS IS TO CERTIFY THAT: 1. THIS CALCULATION IS P VESSEL'S GRAIN LOADING 2. THE STABILITY OF THE ACCORDANCE WITH THIS CO	REPARED IN ACCORDANC BOOK LET AND THE APPLICATION OF THE PROPERTY OF THE PROPE	E WITH THE REQUIREMENTS OF THE ABLE GRAIN REGULATIONS; AINED THROUGHOUT THE VOYAGE IN
CAL (TO BY C	* (If Applicable) THIS IS TO CERTIFY THAT: 1. THIS CALCULATION IS P VESSEL'S GRAIN LOADING 2. THE STABILITY OF THE ACCORDANCE WITH THIS CO	REPARED IN ACCORDANC BOOKLET AND THE APPLICATION.	E WITH THE REQUIREMENTS OF THE ABLE GRAIN REGULATIONS; AINED THROUGHOUT THE VOYAGE IN
CAL (TO BY C	* (If Applicable) THIS IS TO CERTIFY THAT: 1. THIS CALCULATION IS P VESSEL'S GRAIN LOADING 2. THE STABILITY OF THE ACCORDANCE WITH THIS CO	REPARED IN ACCORDANC BOOKLET AND THE APPLICATION.	E WITH THE REQUIREMENTS OF THE ABLE GRAIN REGULATIONS; AINED THROUGHOUT THE VOYAGE IN

ORIGINAL STABILITY CALCULATION AND GRAIN ARRANGEMENT PLAN TO BE SUMITTED TO THE N.C.B. SURVEYOR. ALL TONNAGES USED IN THESE CALCULATIONS SHALL BE SHOWN IN THE SAME UNITS AS USED IN THE GRAIN LOADING BOOKLET.

PART I

SHIP AND CARGO CALCULATION

COMPT.	CARGO (1)	S.F.	GRAIN	CUBICS	WEIGHT		MOMENT	C.F.	0.5	DEN
NO.		(1)	100%	ACTUAL (2)	(3)	V.C.G.	(3)	S.F.	S.F.	DEN.
	DL	Longail	m8843	454901	19736	TOHIO	OUNTRY OFFI	CuFt LT	M3 MT	MT M3
	PULL	1 3 60	40.222.7	17 9 39 3	111878	1034	12 75 70	42	1.171	.854
0	NAME	196	10 E/0 Z	12014	Z'Aqto-	455	JAC JM30	42.5	1.184	.844
							No. of the Late	43	1.199	.834
41	TULL	1,360	101928		1185.30	10 74	177524	43.5	1.212	.825
	FULL	1366	15624 0		11000	1091	124 810	44	1.226	.815
						7		44.5	1.240	.806
					V8.03V0	9994 73	IN LOADING BOOK	45	1.254	.797
								45.5	1.268	.789
			#AL	ORTHON APPRO			ON OWN IN	46.5	1.296	.772
					3		ITA HIDDO DIGADI	47	1.310	.763
					-	- CM	TAGUUSH SIBAVI	47.5	1.324	.755
				VACAN	0.000A 20	AS ZISAAN	ENGLIN FOR LINTER	48	1.338	.748
							111 2 1 102 1 1 2 1 1 1 1 1 1 1 1 1 1 1	48.5	1.352	.740
				A 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			1007 200100	49	1.366	.732
				On the to be				49.5	1.380	.725
							DING PORT	50	1.393	.718
-								50.5	1.407	.711
							KERJNG PORTS	51	1.421	.704
								51.5	1.435	.697
							INUT SURAN	52	1.449	.690
					<u> </u>			53	1.477	.677
				MIL S PER DAY			_ SURPLOID DERMA	1 54	1.505	.664
HIS CAL	CULATION	N IS	CARGO	TOTALS				55	1.533	.652
REPARE	D IN:			J94910		480	T. CONSISTENCE TO TE	56	1.561	.641
] ENGL	ISH UNITS		LIG	HT SHIP		10.75		57 58	1.589	.629
METR	IC UNITS			THOISWOILSU		TVISHES	37637676	58	1.616	.608
		i,		STORES		14782	4-14	60	1.672	.598
		%. t				1 Г		61	1.700	.588
		SI	HIP AND CARGO	TOTALS				62	1.728	.579

- (1) COMPLETE THESE COLUMNS IF MORE THAN ONE TYPE CARGO IS LOADED.
- (2) FOR PARTLY FILLED COMPARTMENTS, SHOW ACTUAL CUBIC OCCUPIED IN ADDITION TO FULL CUBIC.
- (3) WEIGHTS AND MOMENTS SHOULD BE SHOWN TO THE NEAREST WHOLE UNIT.

CARGO PLAN: INDICATE HOLDS, TWEEN DECKS, ENGINE SPACES, FITTINGS, STOWAGE, TONNAGES, ETC.

COUNTEMENTS OF THE	ICARLE CRAIN RECL	199A SHT OKA	1. THIS ALCULATION IS PREFARED VESSE OF SHARED VESSE OF SHARED VESSES OF S	
OUT THE VOYAGE IN		VILL BE MAN	2. THE STABILITY OF THE VERSEL W ACCORDANCE WITH THIS CALLULATION	
METERM		4	CALCULATION PREPAIED BY: (TO SE COMPLETED IF FURNIFHERMED BY OTHER THAN SHIPS LERSONNEL)	
ROY3VRUB, BURVEYOR		EXAMINE	NAME (PRINT)	
		:BYAG	YHARMOO	
			NOTE: ORIGINAL STABILITY OF LOULAT	

PART II

FUEL AND WATER CALCULATION

INTERMEDIATE SECTION IS REQUIRED TO BE COMPLETED IF ARRIVAL SECTION SHOWS BALLAST WHICH IS NOT LISTED IN DEPARTURE SECTION. INTERMEDIATE CONDITION IS BEFORE BALLASTING SO IT INCLUDES THE EFFECT OF FREE SURFACE BUT NOT EFFECT OF WEIGHT OF THE BALLAST WHICH IS TO BE TAKEN ABOARD.

		DEPAR	TURE:			INTERMEDIATE:				ARRIVAL:			
TANK	TYPE LIQUID	WEIGHT	v.c.g.	MOMENT	F.S. MOM.	WEIGHT	v.c.g.	MOMENT	F.S. MOM.	WEIGHT	v.c.g.	MOMENT	F.S.
=10	£Ø					1300	0,59	097	4751		-		
1:00	60	156	0.35	154	429	300	0.99	997	1729	90	099	89	179
7 101	ra	164	15 16	1906	213						-		
		120	19 16	TAGE	919					_			
-1/01	0.0							7/1/1	- t	91	197	104	100
ada.	n a	7.5			0t 1	10E		11/1		-0-14-		100	200
160					1.5	Oh.	J	11000		on.		13.00	1
VIIP		20	1,50	- 1	10/4	20	15.00	0.50	11	-700	100	0.0	
12(9)	FW	100	La La X	2014		144	22.2/01	1.34/	2111	20.	19.04	<u> </u>	1 9
										TOTAL			
			70 808	00 031113 8	59 "TU-5	STMSN	1.7524566	JO OBJULT A	04 - 4- 37	энан	30,400	<u>12 830MV U</u>	
,Qs	MINTER LIVE	TS	MEMTR	OWED COMPA	RABVOF	danus	FOR SE	ENTS, "SEC"	COMPARTS	CELLIFO	YJTRA	1 803 "39"	
знт	RO (THE	EST WE	о тная	PER UNIT WE	SWUJOV :	AT GBB	XB TO	IT III SHALL	ED IN PA	CTOR U	AGE FA	D THE STOM	
16S,	MOMEN' RAV ROT	BELING SE FAG	STOWN	MOMENT. IF		N GRAIN	ATRO 0		LTIPLY B	M RO I	FACTOR FAIN HE		
				974 or	SOLAS I	FRETER VI	N 4, CH	REGULATIO				soesu ans	
		10	48 1980 c roce	PORTVILL SOLA	A MOITU	DESH O	1841 , 1488 1841 - ↓ 1881	REGULATIO					
									Exercise to the second				
	TOTALS	VIHHA		BTATQSMAS	27911						TW	DISPLACEME	
	LIQUIDS	1/9	1	5552	2045	1	0	2401	6388-	24		1879	_
S	HIP AND	14151											
GRAND	CARGO	71.50				2/105				NOM DIVI	и нев с	TOTAL GRAI	
	CEMENT	<u>01m27</u>		346:365 ·		0:10		TIA		JAN SJ	AWO,L.	A MUMPAAM	
	DEPART	une Ko	1- 2		101	TERMEN	ATE VC				A D D	VAL KC	
EDEE SI	DEPART	ORE KG		3 (1) EREE SI	IBEACE CORP (4)			ARRIVAL KG(1) FREE SURFACE CORR.(+)				
											(2) VERT. S.M. CORR. (+)		
				A DO BIRAT A								KG _V	
								RDAIG YTLI					
	DEPART	URE KM	<u>al Sod</u>	CHAPTER C	BTRAIN	TERMEDI	ATE KM	18.10			ARRI	VAL KM	10
DEPARTURE KG V INT				TERMEDIATE KGV				ARRIVAL KM ———————————————————————————————————					
	DEPART	URE GM			IN	TERMEDI	ATF GM				ARRI	VAL GM	
REQUIR	RED MINI	мим GM	09	C)	REQUIR	ED MININ	иим GM	301		REQUIRE	D MINII	иим GM	30
							OTES						

(2) VERT. S.M. CORR. = SUM OF VERTICAL SHIFTING MOMENTS FOR CARGO DISPLACEMENT

(THIS CORRECTION APPLIES ONLY WHEN VERTICAL SHIFTING MOMENTS ARE PROVIDED IN THE SHIP'S GRAIN LOADING MANUAL.)

PART III

сомрт.	STOW-	GRAIN DEPTH OR ULLAGE (1) FT/M	R HEELING	S.F. OR DENSITY	GRAIN HEELING MOMENT	VERTICAL SHIFTING MOMENT SEE NOTE 2 PART II		
NO.				(2)	L.TFT. M.TM.	FT ⁴ /M ⁴	L.TFT. M.TM.	
	DList	VIRRA	3 9000"	11,366	2855	:SAUTAL	130	
2,200	full	rhəlaw ,	2.7 STERMON	Loggy gra	rawly Addys	T V.U.C. MOMENT	LIOUID WEN	
2 ==	MACK		ILAGO	173/4	STILL			
4	die		10 V 10 P	1.363	3056			
5	MILL		3203	1300	1945			
					3		·	
		TOTALS	01/19		10000			

- (1) UNDER STOWAGE INDICATE "F" FOR FILLED COMPARTMENTS, "F-UT" FOR FILLED COMPARTMENTS UNTRIMMED, "PF" FOR PARTLY FILLED COMPARTMENTS, "SEC" FOR SECURED OR OVERSTOWED COMPARTMENTS.
- (2) THE STOWAGE FACTOR USED IN PART III SHALL NOT EXCEED THE VOLUME PER UNIT WEIGHT (TEST WEIGHT) OF THE GRAIN. IF STOWAGE FACTOR IS SAME IN ALL COMPARTMENTS, DIVIDE TOTAL VOLUMETRIC HEELING MOMENT BY STOWAGE FACTOR OR MULTIPLY BY DENSITY TO OBTAIN GRAIN HEELING MOMENT. IF STOWAGE FACTOR VARIES, OBTAIN GRAIN HEELING MOMENT FOR EACH COMPARTMENT.

A. FOR VESSELS APPROVED UNDER

REGULATION 4, CHAPTER VI, SOLAS 1974 or REGULATION 4, IMCO RESOLUTION A.264(VIII), SOLAS 1960 or REGULATION 4, IMCO RESOLUTION A.184(VI), SOLAS 1960

	DEPARTURE	INTERMEDIATE	ARRIVAL
DISPLACEMENT	C480 F	-64931	TOTALS LIST
KG _V	10,62	10.01	SHIP AND
TOTAL GRAIN HEELING MOMENT	1 3	17.093	S C 2 BLATOT G
MAXIMUM ALLOWABLE HEELING MOMENT	38441	32 ± 36	32.815
*ANGLE OF HEEL (12 ⁰ MAX.)			
.075 METER-RADIANS, *RESIDUAL AREA 14.1 FT° OR 4.3M° MIN.	ATRICOTATE NO	(I) FREE SU	SURFACE CORR.(+)
*GM (0.3M OR 1 FT. MIN.)	. S.M. CORR. (+)	(2) VEB	RT, S.M. CORR. (+)

*TO BE COMPLETED IF VESSEL'S GRAIN LOADING BOOKLET DOES NOT INCLUDE A TABLE OF ALLOWABLE HEELING MOMENTS. IN SUCH CASE, STATICAL STABILITY DIAGRAMS DEMONSTRATING THIS INFORMATION SHALL BE ATTACHED HERETO.

SECTION V(B), PART B, CHAPTER VI, SOLAS 1974 or B. FOR SPECIALLY SUITABLE SHIPS APPROVED UNDER SECTION V(B), PART B, IMCO RESOLUTION A.264(VIII)

REGULATION 12, CHAPTER VI, SOLAS 1960

GRAIN HEELING MOMENT X 57.3 ANGLE OF HEEL

DISPLACEMENT X GM

REQUIRED MINIMUM GM	DEPARTURE	INTERMEDIATE	ARRIVAL
TOTAL GRAIN HEELING MOMENT	NOTES		
DISPLACEMENT	(TH)	OF FREE SURFACE INER DISPLACEMENT	SE SURFACE CORR. * SUM
GM (CORRECTED OF LIQUID FREE SURFACE)	ENTS FOR CARGO STRE	VERTICAL SHIFTING MOS	IT. S.M. CORR SUM OF
ANGLE OF HEEL (5° MAX.)			