ACKNOWLEDGEMENT

Prepared By (Rank, name and signature) PRALAY KUMAR DAS (2ND OFFICER)	Master's approval (name and signature) CAPT. DILIP KUMAR (MASTER)
Acknowledged by (Rank, name and signature) NARAYAN KUMAR SHARMA (CH/ OFF)	Acknowledged by (Rank, name and signature) SUJEET KUMAR (3RD OFFICER)
Acknowledged by (Rank, name and signature) RAJ MOHAN (D / CDT)	Acknowledged by (Rank, name and signature)

ED_002238_00000179-00001

PASSAGE PLAN

FILING:
FILE NR.:
Area . Sec . Form n°

ISSUE : 6	ISSUE DATE	18/03/2014	FBN.28.01

Voyage No. 75 B — ARATU BERTH — To: PLT STN

Chart No	BWL	POSITION Lat (N/S)		POSITION Long (E/W)		Fl. GC	Course	Next WPT DTG	dd	hh	mm	Parallel Index Distances (miles) / Conspicuous Reference	Eng Status or Speed (Kts)	Destination WPT DTG	dd	hh	mm	Position Fix Method Primary	Secondary	Position Fix Interval	1 Max static Draft Through the Leg (m) Calculated with the load computer or draft read in place	2 Max dynamic draft through the leg (Static draft + Squat Effect)	3 Min water Depth through the leg from chart Datum (m)	4 Gross UKC Min water Depth minus Max static draft through the Leg	5 Leg Transit areas Confined (C) or Open waters (O)	6 Squat Effect basic Engine Speed through the Leg (m)	7 Net UKC Minimum depth through the Leg - Max Dynamic Draft
545	III	12° 47.1	S	38° 29.9	W	R							0.0	13.4	0	1	5	VIS/RAD	GPS	5 MINS	7.50	7.50	19.00	11.50	O	0.00	11.50
540	III	12° 47.3	S	38° 30.4	W	R	246.5	0.6	0	0	2	AS MARKED ON CHARTS	5.0	12.9	0	0	51	VIS/RAD	GPS	5 MINS	7.50	7.70	19.00	11.50	O	0.20	11.30
540	III	12° 47.6	S	38° 30.6	W	R	211.0	0.4	0	0	1	AS MARKED ON CHARTS	5.0	12.5	0	0	50	VIS/RAD	GPS	5 MINS	7.50	7.70	19.70	12.20	O	0.20	12.00
540/545	III	12° 49.0	S	38° 30.9	W	R	189.6	1.4	0	0	5	AS MARKED ON CHARTS	13.0	11.1	0	0	45	VIS/RAD	GPS	5 MINS	7.50	8.80	21.00	13.50	O	1.30	12.20
545	III	12° 50.10	S	38° 31.15	W	R	194.3	1.2	0	0	5	AS MARKED ON CHARTS	13.0	10.0	0	0	40	VIS/RAD	GPS	5 MINS	7.50	8.80	18.00	10.50	O	1.30	9.20
545	III	12° 50.8	S	38° 31.4	W	R	199.3	0.7	0	0	3	AS MARKED ON CHARTS	13.0	9.2	0	0	37	VIS/RAD	GPS	5 MINS	7.50	8.80	19.00	11.50	O	1.30	10.20
545	III	12° 52.0	S	38° 33.1	W	R	235.4	2.0	0	0	8	AS MARKED ON CHARTS	13.0	7.2	0	0	29	VIS/RAD	GPS	5 MINS	7.50	8.80	19.50	12.00	O	1.30	10.70
545	III	12° 54.1	S	38° 33.7	W	R	195.6	2.2	0	0	9	AS MARKED ON CHARTS	13.0	5.0	0	0	20	VIS/RAD	GPS	5 MINS	7.50	8.80	24.00	16.50	O	1.30	15.20
545	III	12° 56.7	S	38° 33.0	W	R	165.0	2.7	0	0	11	AS MARKED ON CHARTS	13.0	2.3	0	0	9	VIS/RAD	GPS	5 MINS	7.50	8.80	35.00	27.50	O	1.30	26.20
545	III	12° 59.0	S	38° 33.0	W	R	180.0	2.3	0	0	9	AS MARKED ON CHARTS	5.0	0.0	0	0	0	VIS/RAD	GPS	5 MINS	7.50	7.70	15.00	7.50	O	0.20	7.30

	UKC AND SQUAT CALCULATION		FS.INS FS.6.SP.28A Area Gulf North T.09.28.02
Issue: 4	Issue Date	10/1/2019	

VESSEL: SOLA CHALLO
PLACE: ARATU BERTH TO ARATU PLT STATION DATE:23/10/2018

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UNDER KEEL CLEARANCE COMPANY POLICY

NET UNDER KEEL CLEARANCE

AREA LOCATION

NON PROTECTED AREAS (OPEN SEA)	PROTECTED AND IN PORT CONDITIONS	OPEN SEA BERTH AND OFF SHORE OPERATION
50% of STATIC DRAFT	1.5% of SHIP'S BEAM	3.0% of SHIP'S BEAM

AREA - PROTECTED OR NON PROTECTED (UKC)	PROTECTED
WATER DENSITY	1.023
WATER - CONFINED OR OPEN (SQUAT)	OPEN
ANTICIPATED SPEED(KNTS)	13.00
MAX STATIC DRAFT OF THE VL (DM)	7.60
CHARTED DEPTH	15.00
GROSS AVAILABLE UKC (CHARTED DEPTH - MAX STATIC DRAFT)	7.40
TIDE EFFECT (+/-)	0.24
EFFECTIVE DEPTH (CHARTED DEPTH +/- TIDE EFFECT)	15.24
REDUCTIONS	
REDUCTION IN UKC DUE TO SQUAT EFFECT	1.30
REDUCTION IN UKC DUE TO TRIM	0.00
REDUCTION IN UKC DUE TO HEEL (ATTACHED CALCULATED FOR 0.5° LIST)	0.13
REDUCTION IN UKC DUE TO CHANGE IN WATER DENSITY	0.00
REDUCTION IN UKC DUE TO BAROMETRIC PRESSURE	0.00
REDUCTION IN UKC DUE TO UNFAVOURABLE METEOROLOGICAL CONDITION WHICH MAY GIVE RISE TO PITCHING AND ROLLING - WAVE MOTION	0.00
REDUCTION IN UKC DUE TO HOGGING OR SAGGING	0.00
REDUCTION IN UKC DUE TO PIPELINE OR OTHER OBSTRUCTION, PERIODICAL DREDGING NATURE AND UNSTABLE BOTTOM CONDITION	0.00
FINAL RESULT	
MAX DYNAMIC DRAFT OF THE VL (MAX STATIC DRAFT OF THE VL + REDUCTIONS)	8.93
NET AVAILABLE UKC (MAX DYNAMIC DRAFT OF THE VL - EFFECTIVE DEPTH)	6.31
NET UKC ENSURED (COMPANY POLICY 50 % of STATIC DRAFT - 1.5% or 3% OF SHIP'S BEAM)	6.46
CONDITION ACCEPTABILITY	YES

SQUAT CALCULATION

CONFINED WATERS	$\frac{2XCbXV^2}{100}$	2.60
OPEN WATERS	$\frac{CbXV^2}{100}$	1.30

Cb = Block Coefficient
V= Ships Speed (Speed Through the WATER)

Cb= 0.768
Vessel beam= 32.2

MASTER CHIEF OFFICER 2ND OFFICER 3RD OFFICER

PASSAGE PLAN

FILING:
FILE NR.:-------
Area . Sec . Form n°

ISSUE : 6	ISSUE DATE	18/03/2014	FBN.28.01

Voyage No. 75 B | ARATU PBG | To: LAKE CHARLES PBG

Chart No	WP	POSITION Lat (N/S)		POSITION Long (E/W)		RL GC	Course	Next WPT DTG	dg	hh	mm	Parallel Index Distances (miles) Compass Bearings Reference	Leg Status Speed (kts)	Destination WPT DTG	dg	hh	mm	Position Fix Method Primary	Secondary	Position Fix Interval	1 Max static Draft Through the Leg (m) Calculated with the load computer or draft read in place	2 Max dynamic draft through the leg (Static draft + Squat Effect)	3 Min water Depth through the leg from chart Datum (m)	4 Gross UKC: Min water Depth minus Max static draft through the Leg	5 Leg Transit areas: Confined (C) or Open waters (O)	6 Squat Effect across Engine Speed through the Leg (m)	7 Net UKC: Minimum depth through the Leg - Max Dynamic Draft
545	1	12° 59.00	S	38° 33.00	W	R								4728.9	15	18	19	VIS /RAD	GPS	5 MINS	7.50	7.70	15.00	7.50	O	0.20	7.30
546	2	13° 0.00	S	38° 33.80	W	R	206.1	1.1	0	0	4	as marked on chart	13.5	4727.8	13	3	11	VIS /RAD	GPS	5 MINS	7.50	8.90	23.00	15.50	O	1.40	14.10
540	3	13° 9.00	S	38° 34.75	W	R	193.8	5.1	0	0	21	as marked on chart	13.5	4722.6	13	2	50	VIS /RAD	GPS	5 MINS	7.50	8.90	23.00	15.50	O	1.40	14.10
540	4	13° 8.00	S	38° 33.00	W	R	150.2	3.5	0	0	14	as marked on chart	13.5	4719.2	13	2	37	VIS /RAD	GPS	5 MINS	7.50	8.90	22.00	14.50	O	1.40	13.10
3976	5	12° 54.00	S	37° 58.00	W	R	67.8	37.1	0	2	28	as marked on chart	13.5	4682.1	13	0	8	VIS /RAD	GPS	30 MINS	7.50	8.90	35.00	27.50	O	1.40	26.10
3976/3977	6	09° 53.00	S	35° 20.00	W	R	40.7	236.3	0	15	56	as marked on chart	13.5	4443.2	12	8	13	GPS	CEL	60 MINS	7.50	8.90	100.00	92.50	O	1.40	91.10
3978	7	08° 30.00	S	34° 20.0	W	R	35.7	102.2	0	6	49	as marked on chart	13.5	4341.0	12	1	34	VIS /RAD	GPS	30 MINS	7.50	8.90	100.00	92.50	O	1.40	91.10
3978	8	07° 10.00	S	34° 15.0	W	R	3.6	80.2	0	5	21	as marked on chart	13.5	4260.8	11	20	3	VIS /RAD	GPS	30 MINS	7.50	8.90	100.00	92.50	O	1.40	91.10
3979	9	04° 51.0	S	35° 02.0	W	R	341.3	146.8	0	9	47	as marked on chart	13.5	4114.1	11	10	16	VIS /RAD	GPS	30 MINS	7.50	8.90	100.00	92.50	O	1.40	91.10
3995	10	04° 14.0	S	35° 59.0	W	R	302.8	68.1	0	4	33	as marked on chart	13.5	4046.0	11	5	44	GPS	CEL	60 MINS	7.50	8.90	100.00	92.50	O	1.40	91.10
528/4020	11	0° 20.00	N	39° 30.00	W	R	322.2	346.9	0	23	6	as marked on chart	13.5	3699.2	10	9	37	GPS	CEL	60 MINS	7.50	8.90	100.00	92.50	O	1.40	91.10
520/4020	12	06° 20.00	N	45° 20.00	W	R	304.1	542.8	1	15	51	as marked on chart	13.5	3356.6	8	11	46	GPS	CEL	60 MINS	7.50	8.90	100.00	92.50	O	1.40	91.10
517/1044	13	11° 29.0	N	60° 30.0	W	R	293.1	768.9	2	4	39	as marked on chart	13.5	2267.7	6	7	11	GPS	CEL	60 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10
1044	14	11° 51.0	N	62° 54.0	W	R	278.8	143.7	0	9	35	as marked on chart	13.5	2124.1	6	21	36	GPS	CEL	60 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10
1044 / 1073 / 1445/1615/29A	15	18° 27.0	N	78° 19.0	W	R	298.6	876.1	2	10	25	as marked on chart	13.5	1247.9	3	11	12	GPS	CEL	60 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10
29A/ 29A/1445/1213	16	19° 51.00	N	81° 49.00	W	R	285.0	324.7	0	21	39	as marked on chart	13.5	923.2	2	13	33	GPS	CEL	60 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10
1218	17	19° 55.00	N	83° 30.00	W	R	272.4	95.8	0	6	23	as marked on chart	13.5	827.6	2	7	10	GPS	CEL	60 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10
1220	18	20° 39.00	N	83° 0.00	W	R	297.4	95.7	0	6	23	as marked on chart	13.5	731.9	2	0	48	GPS	CEL	60 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10
4401	19	26° 0.00	N	88° 0.00	W	R	327.4	309.8	0	20	39	as marked on chart	13.5	422.1	1	4	9	GPS	CEL	60 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10
4401 /3850	20	27° 35.00	N	90° 20.00	W	R	303.5	261.0	0	18	44	as marked on chart	13.5	161.1	0	9	25	VIS/RAD /GPS	CEL	60 /15 MINS	8.50	9.90	100.00	91.50	O	1.40	90.10

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Chart No	WP	POSITION Lat (KG)		POSITION Long (E/M)		Alt	Course	Next WPT DTG	dd	hh	mm	Position Index Landmark (Visual) Celestial Radio Reference	Log Status Speed (kts)	Destination WPT DTG	dd	hh	mm	Position Fix Method Primary	Secondary	Position Fix Interval	1 Max static Draft Through the Leg (m) Calculated with the load computer or draft read in place	2 Max dynamic draft through the leg (Static draft + Squat Effect)	3 Min water Depth through the leg from chart Datum (m)	4 Gross UKC: Min water Depth minus Max static draft through the Leg	5 Leg Transit areas Confined (C) or Open waters (O)	6 Squat Effect basis Engine Speed through the Leg (m)	7 Net UKC Minimum depth through the Leg - Max Dynamic Draft
3954	21	28° 13.08	N	93° 53.06	W	R	322.3	48.0	0	3	12	as marked on chart	13.5	93.2	0	6	13	VIS/RAD	GPS	10 MINS	8.50	9.90	14.30	5.80	O	1.40	4.40
3954	22	28° 16.20	N	93° 57.03	W	R	326.7	8.3	0	0	25	as marked on chart	10.0	86.9	0	5	47	VIS/RAD	GPS	15 MINS	8.50	9.27	63.00	54.50	O	0.77	53.73
3954	23	28° 39.70	N	93° 12.50	W	R	323.6	23.1	0	1	32	as marked on chart	10.0	63.8	0	4	15	VIS/RAD	GPS	15 MINS	8.50	9.27	38.00	29.50	O	0.77	28.73
3954	24	29° 20.0	N	93° 13.4	W	R	359.0	42.3	0	2	53	as marked on chart	10.0	20.5	0	1	22	VIS/RAD	GPS	10 MINS	8.50	9.27	16.00	7.50	O	0.77	6.73
3954	25	29° 21.8	N	93° 13.3	W	R	5.0	1.5	0	0	7	as marked on chart	10.0	18.7	0	1	15	VIS/RAD	GPS	5 MINS	8.50	9.27	15.50	7.00	O	0.77	6.23
3190	26	29° 26.5	N	93° 13.4	W	R	359.1	4.7	0	0	19	as marked on chart	10.0	14.0	0	0	36	VIS/RAD	GPS	5 MINS	8.50	10.04	11.80	3.30	C	1.54	1.76
3190	27	29° 30.7	N	93° 13.5	W	R	358.9	4.2	0	0	17	as marked on chart	10.0	9.8	0	0	39	VIS/RAD	GPS	5 MINS	8.50	10.34	12.80	4.00	C	1.54	2.46
3190	28	29° 31.2	N	93° 13.6	W	R	352.8	0.5	0	0	2	as marked on chart	10.0	9.3	0	0	37	VIS/RAD	GPS	5 MINS	8.50	10.34	12.80	4.00	C	1.54	2.46
3190	29	29° 37.6	N	93° 19.3	W	R	321.9	8.1	0	0	33	as marked on chart	10.0	1.2	0	0	5	VIS/RAD	GPS	5 MINS	8.50	10.34	12.80	4.0	C	1.54	2.46
3190	30	29° 39.8	N	93° 19.5	W	R	352.0	1.2	0	0	0	as marked on chart	10	0.0	0	0	0	VIS/RAD	GPS	5 MINS	8.50	9.16	12.50	4.00	C	0.38	3.62

Steaming Times at 12.5 378.3 hrs

	UKC AND SQUAT CALCULATION			FR.UNS FR.E.NR.29A Area Sec.Form II FM.28.50
Issue:	4	Issue Date	10/1/2015	

VESSEL: ROLA CORALLO
PLACE: ANATU PILOT STN TO LAKE CHARLES PILT STN DATE: 21/7/2015

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UNDER KEEL CLEARANCE COMPANY POLICY

NET UNDER KEEL CLEARANCE

AREA LOCATION

NON PROTECTED AREAS (OPEN SEA)	PROTECTED AND IN PORT CONDITIONS	OPEN SEA BERTH AND OFF SHORE OPERATION
50% of STATIC DRAFT	1.5% of SHIP'S BEAM	2.5% of SHIP'S BEAM

AREA - PROTECTED OR NON PROTECTED (UKC)	NON PROTECTED
WATER DENSITY	1.000
WATER - CONFINED OR OPEN (SQUAT)	CONFINED
ANTICIPATED SPEED(KTS)	5.00
MAX STATIC DRAFT OF THE VSL (FM)	8.50
CHARTED DEPTH	11.80
GROSS AVAILABLE UKC (CHARTED DEPTH - MAX STATIC DRAFT)	3.30
TIDE EFFECT (+ / -)	-0.14
EFFECTIVE DEPTH (CHARTED DEPTH +/- TIDE EFFECT)	11.66
REDUCTIONS	
REDUCTION IN UKC DUE TO SQUAT EFFECT	0.35
REDUCTION IN UKC DUE TO TRIM	0.30
REDUCTION IN UKC DUE TO HEEL (VISUALCALCULATED FOR 5.5° LIST)	0.13
REDUCTION IN UKC DUE TO CHANGE IN WATER DENSITY	0.00
REDUCTION IN UKC DUE TO BAROMETRIC PRESSURE	0.00
REDUCTION IN UKC DUE TO UNFAVOURABLE METEOROLOGICAL CONDITION WHICH MAY GIVE RISE TO PITCHING AND ROLLING, WAVE MOTION	0.00
REDUCTION IN UKC DUE TO HOGGING OR SAGGING	0.00
REDUCTION IN UKC DUE TO PIPELINE OR OTHER OBSTRUCTION, PERIODICAL DREDGING NATURE AND UNSTABLE BOTTOM CONDITION	0.00
FINAL RESULT	
MAX DYNAMIC DRAFT OF THE VSL (MAX STATIC DRAFT OF THE VSL + REDUCTIONS)	9.31
NET AVAILABLE UKC (MAX DYNAMIC DRAFT OF THE VSL - EFFECTIVE DEPTH)	2.35
NET UKC REQUIRED (COMPANY POLICY 50 % of STATIC DRAFT - 1.5% or 2% OF SHIP'S BEAM)	0.95
CONDITION ACCEPTABILITY	YES

SQUAT CALCULATION

CONFINED WATERS	$\frac{2XCbXV^2}{100}$	0.35
OPEN WATERS	$\frac{CbXV^2}{100}$	0.18

Cb = Block Co-efficient — Cb= 0.766

V= Ships Speed (Speed Through the WATER) — Vessel beam= 32.2

MASTER: Dilph CHIEF OFFICER: 2ND OFFICER: 3RD OFFICER:

TIDAL PREDICTION

SIMPLIFIED HARMONIC METHOD

PLACE : Calcasieu pass A.T.T. 2593

DATE : 06 January 2016 TIME ZONE : 6

ADMIRALTY TIDE TABLES (PART III)			
Seasonal Correction	- 0.10	Zo =	0.30

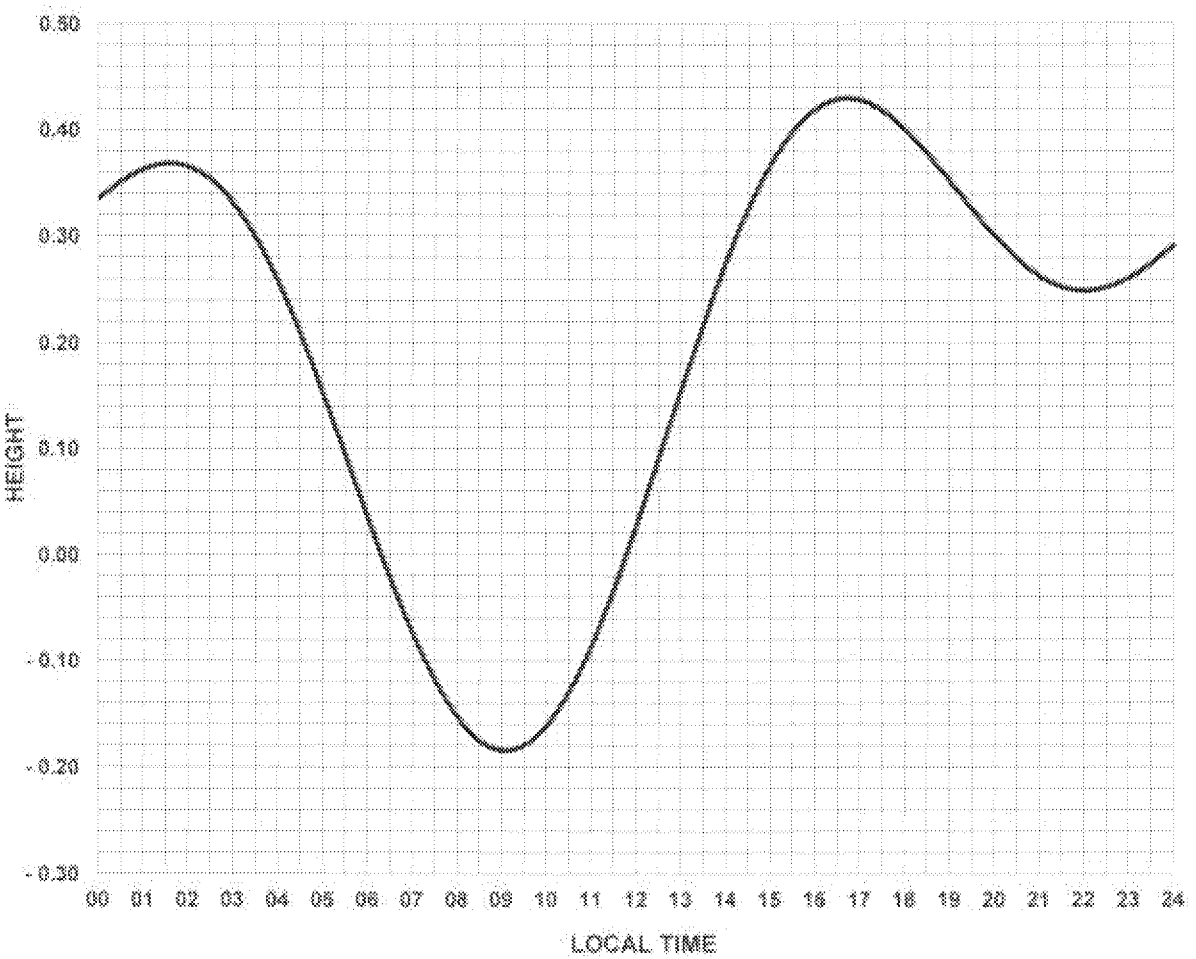
	M2	S2	K1	O1
g =	079	056	299	299
H =	0.14	0.04	0.14	0.13

f4 =	000	F4 =	0.00
f6 =	000	F6 =	0.00

ADMIRALTY TIDE TABLES (TAB VII)				
	M2	S2	K1	O1
A	019	008	351	036
F	0.95	0.90	1.14	0.71

LOCAL TIME	HEIGHT (mts)	LOCAL TIME	HEIGHT (mts)
00.00	0.34	13.00	0.15
01.00	0.36	14.00	0.27
02.00	0.37	15.00	0.37
03.00	0.33	16.00	0.42
04.00	0.26	17.00	0.43
05.00	0.16	18.00	0.40
06.00	0.04	19.00	0.35
07.00	- 0.07	20.00	0.30
08.00	- 0.15	21.00	0.26
09.00	- 0.18	22.00	0.25
10.00	- 0.16	23.00	0.26
11.00	- 0.09	24.00	0.29
12.00	0.03		

TIDE GRAPH



TIDAL PREDICTION

SIMPLIFIED HARMONIC METHOD

PLACE : Calcasieu pass A.T.T. 2593

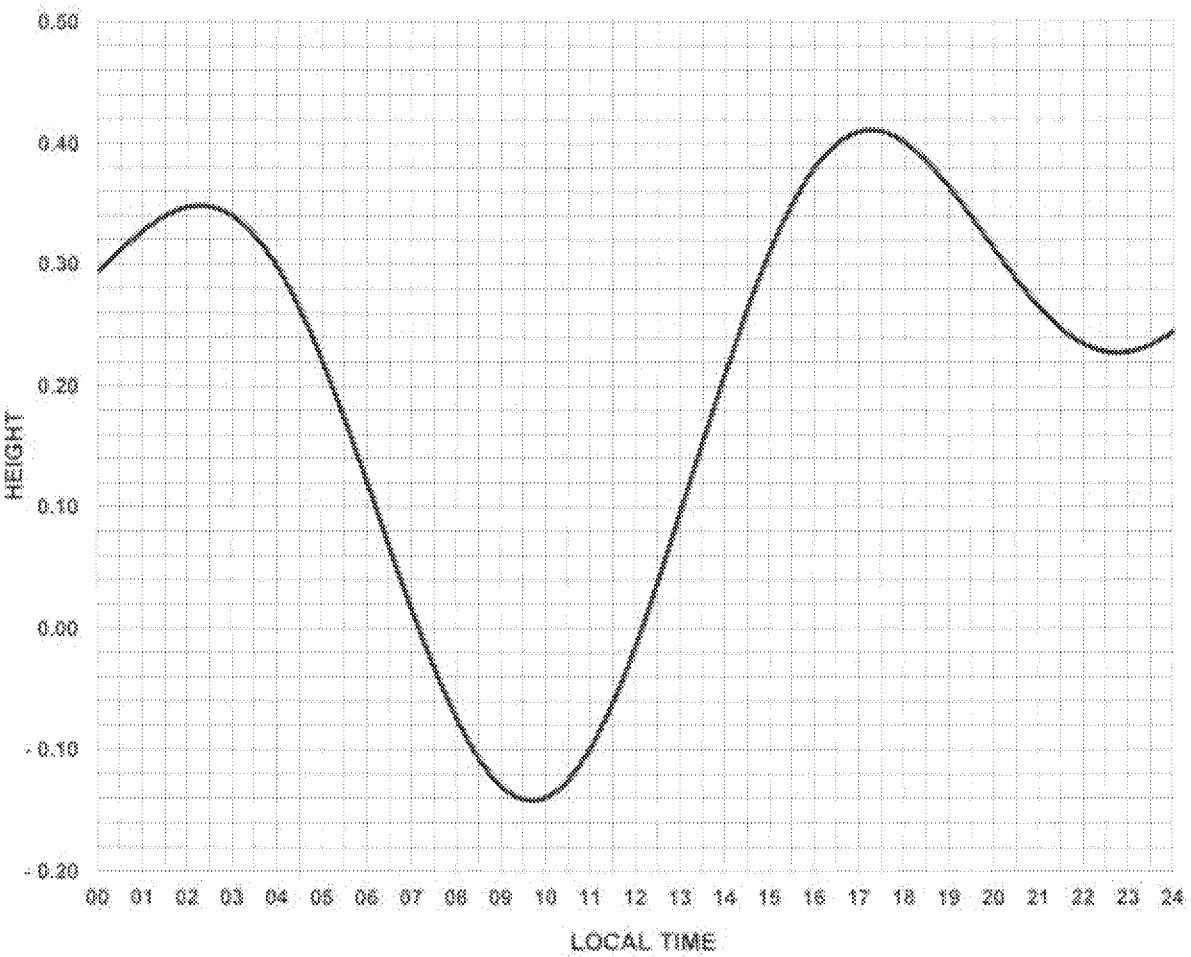
DATE : 07 January 2016 TIME ZONE : 6

ADMIRALTY TIDE TABLES (PART III)			
Seasonal Correction	- 0.10	Zo =	0.30

	M2	S2	K1	O1
g =	079	056	299	299
H =	0.14	0.04	0.14	0.13

f4 =	000	F4 =	0.00
f6 =	000	F6 =	0.00

ADMIRALTY TIDE TABLES (TAB VII)				
	M2	S2	K1	O1
A	042	008	351	060
F	0.93	0.90	1.13	0.70

LOCAL TIME	HEIGHT (mts)	LOCAL TIME	HEIGHT (mts)
00.00	0.29	13.00	0.09
01.00	0.33	14.00	0.21
02.00	0.35	15.00	0.31
03.00	0.34	16.00	0.38
04.00	0.30	17.00	0.41
05.00	0.22	18.00	0.40
06.00	0.12	19.00	0.36
07.00	0.02	20.00	0.31
08.00	- 0.07	21.00	0.27
09.00	- 0.13	22.00	0.24
10.00	- 0.14	23.00	0.23
11.00	- 0.10	24.00	0.25
12.00	- 0.02		

TIDE GRAPH