ALMI TANKERS S.A.		VOYAGE NUMBER:	818/2014
Vessel name: M.T ALMI GALAXY		DATE:	February 23, 2015
Condition(√): Ballast	Laden (√)	Cargo/ Quantity	DOBA C.O. / 69126.6MT

Sailing Mean Draft	12.1	Fore:	12.1	Aft:	12.1	Density:	1.025
Arrival Mean Draft	12.1	Fore:	12.1	Aft:	12.1	Density:	1.025

Passage Route (√): Great Circle		Rhumb Line:	√
Passage Distance (n.mile): Great Circle:		Rhumb Line:	68.8

PASSAGE PLAN (paperless navigation)

FROM:	SW PASS LIGHTERING AREA, USA	Name of ECDIS Route :	V18/14L1
TO:	LOOP, USA(BUNKERING BY POSN)	Name of User map :	NW A4 / V18/14L1 (NOTES / POSN)
VIA:			

PASSAGE PLAN MEETING HELD ON (date/time): 24 FEB 2015 / 1030H

* CONTENTS

1. Checklist for intended voyage
2. Outbound Passage Plan(From Berth To Pilot station)
3. Ocean Passage Plan(From Pilot station To Pilot station)
4. Inbound Passage Plan(From Pilot station To Berth)
5. Miscellaneous
6. Squat and UKC information
7. Tide table
8. Necessary port information

Officers	Duties	Helmsman	Duties
2/O EDGARDO P. LOMBOY	04:00-08:00/16:00-20:00	MARK SALAS	04:00-08:00/16:00-20:00
3/O RANDY CABANERO	08:00-12:00/20:00-24:00	AGUILINO LAGO	08:00-12:00/20:00-24:00
3/O RENANTE SIRAY	12:00-16:00/24:00-04:00	COSME L. CALUNIA JR.	12:00-16:00/24:00-04:00

NAVIGATION OFFICER (Prepared): ..... Renante A. Siray

SECOND OFFICER (Reviewed and accepted): ..... Edgardo Lomboy

THIRD OFFICER (Reviewed and accepted): ..... Randy Cabanero

CHIEF OFFICER (Reviewed and accepted): ..... Majstorovic Sasa

MASTER (Reviewed and approved): ..... Capt. Zoran Zuzic

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Sequence of passage planning (appraisal and planning)	Done (√)
Charts Selection	
Ensure that the area of sailing is covered by official ENC data, otherwise paper charts should be ordered	✓
Verify that the most recent available corrections have been applied on the ENCs	✓
SCAMIN	
It should be OFF during the appraisal and planning process	✓
T&P notices	
Temporary and preliminary notices applied on the ENCs	✓
Navigational warning	
NTM navigational warnings applied on the ENCs	
INMARSAT/NAVTEX navigational warnings applied on the ENCs	✓
Safety Contour	
It is set at 10 meters	
Safety Depth	
It is equal to above static draught plus 10%	✓
No-go areas (Indicative areas to be selected and screenshots to be kept along with P.P.)	✓
No-go areas marked on the ENCs	✓
Weather routing	
Wx routing publications / applicable software advised	(ND) ✓
Tide	
Height of the tide is considered	✓
UKC (Indicative areas to be selected and screenshots to be kept along with P.P.)	
UKC calculated and restrictions marked on the ENCs	(ND) ✓
AIR DRAFT	
Any air draft restrictions considered (4 ft clearance to be provided at all stages)	✓
Environmental sensitive areas	
C/P advised for any areas that shall be avoided	✓
Load line zones	
Zone load line restrictions considered	✓
IMO routing info	
Check whether the routing info and the traffic separation schemes of the intended voyage are approved by the IMO	✓
Security restrictions	
Check for any security restrictions concerning the area of sailing	✓
Course plotting and Course Check	
Courses are plotted. The created courses must be checked for potential dangers in case any have been overlooked during course creation	P/L = 1.0NM
Set ample XTL in order to include all the possible hazards to navigation	XTL SET AT P/L = 0.5NM
Routes Upload	
Routes have been uploaded to all available ECDIS	✓
Safety bearings (CLEARING LINES) and parallel indexing (USER MAP EDITOR)	
Clearing bearings and ranges are marked on the ENCs	✓
Bridge status	
Bridge status at each part of the sea passage is marked on the ENCs	✓
Change of machinery status	
Points at which the machinery status is changed marked on the ENCs	✓
Rest hours	
Bridge and machinery status during the entire passage is communicated to those concerned in order the schedule of the rest hours to be amended accordingly	✓
Echo-sounder	
Points at which the echosounder is checked marked on the ENCs	✓
Wheel over positions	
Wheel over positions are checked	✓
Land marks for radar check	
Define the landmarks to check the radar accuracy and marked on the ENCs	✓
Warning notices	
Advance warning notices for hazards marked on the ENCs	(ND) ✓
Reporting points	
Reporting points marked on the charts (USER MAP EDITOR)	✓
NAVAREAS / NAVTEX	
Navarea / NAVTEX limits marked on the charts (USER MAP EDITOR)	✓
Abort point	
Points to abort a port approach marked on the ENCs	✓
Contingency anchorage and port of refuge	
Contingency anchorages and ports of refuge concerning the coastal and inland waters marked on the ENCs	✓
HAVE THE FOLLOWING PREPERATIONS BEEN MADE FOR PORT ARRIVAL?	Initials*
ENCs and publications studied for pilotage requirements	✓ MK
Ship to Shore Master/Pilot Exchange form prepared	✓ MK
Pilot card updated	✓ MK
Port guides studied for port information including arrival/berthing restrictions	✓ MK

Trim Optimization as per SEEMP
Trim optimization has been taken into consideration
Trim Upper Spline
Draft: 0
Targeted Trim (draft): 0
Draughts Bow
Max BM / SF: 32.27 / 42.20%
Re-Adjustment Frequency:

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ENCs to be used for the intended voyage
US3GC03M, US3GC04M, US5LA41M, US4LA32M, US5LA26M

ENCs correction log

Date:	07 FEB 15	Date:	25 FEB 15	Date:		Date:	
Date:	12 FEB 15	Date:		Date:		Date:	
Date:	16 FEB 15	Date:		Date:		Date:	
Date:	19 FEB 15	Date:		Date:		Date:	

Paper and electronic publications to be used

Tides tables:	ATT
Radio signals:	ADRS 2 / 6 // ALRS NP281 (2) NP283 (2) NP285 NP284
List of lights	ADLL
Sailing directions:	e-NP 69A

Routeing charts:	BA: ~~5126 (2)~~ 5142 (2)
Routeing guides:	
Weather charts:	

Navigational warning from Inm-C, Navtex, VHF, Weather Fax, Notices to mariners Etc

All navigational warning rcvd from above list to be monitored and compared to ECDIS if concerned to the voyage.

ALMI TANKERS S.A.

N-001a

INTEGRATED MANAGEMENT SYSTEM MANUAL Ch. 7.2

PASSAGE PLAN FROM BERTH TO FULL AWAY

WP Number	LATITUDE	LONGITUDE	COURSE	DISTANCE TO NEXT WP (NM)	SOG (EU / EB or SP) (kt / knots)	MACHINERY STATUS (POWER, ON / STBY (SS))	PRIMARY / SECONDARY POSITION SENSOR	METHODS FOR VERIFYING POSITION FIXING ON CHART: Frequency*	Parallel Indexing	Radar	Visual Cross Bearings	Signal to Noise Ratio	TIDAL CURRENT	HEIGHT OF THE TIDE CONSIDERED (Y/N)	MARK ON THE CHART: IPS	NO GO AREA	SAFETY BEARINGS	CONTINGENCY ANCHORAGE	BW STATUS	ER STATUS	REPORTING POINTS/PILOT STATIONS	POSITION VERIFICATION METHOD AND MINIMUM CLEARANCE	MINIMUM CLEARANCE BETWEEN PHASES WP TO WP	MINIMUM UKC FROM wp TO WP	AIR DRAFT	OTHER HAZARDS TO NAVIGATION (Danger Points, Air draft restrictions, unusual currents, weather conditions, bridge names/ cables/ overhead clearance etc.)
0	28° 17.6' N	090° 31.8' W																					56	46.87	37.47	SW PLA // Prepare bridge prior departure. Monitor traffic / Vol is in Marpol special area / ECA. Test as per 33 CFR 164.25 / COSP
1	28° 19.4' N	090° 11.9' W	94.8	17.7	II	S	GPS	15	Y	Y	Y	Y	W	N	Y	Y	Y	Y	II	S	N	√	62	48.9	36.6	PLATFORM Bog 109-3// Monitor traffic / Vol poin / Navi wrngs. Vol is in Marpol special area / ECA

*Open sea: Every 1 hr/ Coastal navigation: every 15 minutes

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ALMI TANKERS S.A.	INTEGRATED MANAGEMENT SYSTEM MANUAL Ch. 7.2
N-001b	PASSAGE PLAN FROM FULL AWAY TO END OF SEA PASSAGE

WP Number	LATITUDE	LONGITUDE	COURSE	DISTANCE TO NEXT WP (NM)	RW (I or II or III)	MACHINERY STATUS (NORMAL (N)/ STBY (S))	PRIMARY/ SECONDARY POSITION SENSOR	METHODS FOR VERIFYING POSITION FIXING OF EGBS					TIDAL CURRENT	MARK ON THE CHART							MINIMUM CHART DEPTH (metre) FROM WP TO WP	MINIMUM UKC FROM WP TO WP	OTHER HAZARDS TO NAVIGATION (Danger Points, Air draft restrictions, unusual currents, weather conditions, bridge names/ cables/ overhead clearance etc.)
								Frequency*	Parallel Indexing	Radar	Visual Cross Bearings	Signal to Noise Radio		PI	NO GO AREA	SAFETY BEARINGS	CONTINGENCY ANCHORAGE	RW STATUS	ER STATUS	POSITION VERIFICATION METHOD AND			
1	28° 19.4' N	090° 11.9' W	72.46	15.89	II	S	GPS	15	Y	Y	Y	Y	W	Y	Y	Y	Y	II	S	√	62	48.9	PLATFORM flog 103-3// Monitor traffic / Vsl pass / Nav wrngs. Vsl is in Marpol special area / ECA
2	28° 24.2' N	089° 54.6' W	2.899	21.01	II	S	GPS	15	Y	Y	Y	N	W	Y	Y	Y	Y	II	S	√	74	60.9	FAIRWAY// Monitor traffic / Vsl pass / Nav wrngs. Vsl is in Marpol special area / ECA
3	28° 45.2' N	089° 53.4' W			II	S	GPS	15	Y	Y	Y	N	W	Y	Y	Y	Y	II	S	√	58	44.9	PLATFORM O E 112-1// Monitor traffic / Vsl pass / Nav wrngs. Vsl is in Marpol special area / ECA / EOSP

*Open sea: Every 1 hr/ Coastal navigation: every 15 minutes

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ALMI TANKERS S.A.

N-001c

INTEGRATED MANAGEMENT SYSTEM MANUAL Ch. 7.2

PASSAGE PLAN FROM END OF SEA PASSAGE TO BERTH

W/P Number	LATITUDE	LONGITUDE	COURSE	DISTANCE TO NEXT WP (NM)	SOG (Kt or P) (if applicable)	MACHINERY STATUS (NORMAL / NO SP/BP ESP)	PRIMARY/SECONDARY POSITION SENSOR	METHODS FOR VERIFYING POSITION FIXING ON CHART: Frequency*	Parallel indexing	Radar	Visual Cross Bearings	Signal to Noise Ratio	TIDAL CURRENT	HEIGHT OF THE TIDE CONSIDERED (Y/N)	MARK ON THE CHART: PI	NO GO AREA	SAFETY BEARINGS	CONTINGENCY ANCHORAGE	60% STATUS	E28 STATUS	REPORTING POINTS/PILOT STATIONS	POSITION VERIFICATION METHOD AND	MINIMUM CHART DEPTH (meter) FROM WP TO WP	MINIMUM UKC FROM WP TO WP	AIR DRAFT	OTHER HAZARDS TO NAVIGATION (Danger Points, Air draft restrictions, seasonal currents, weather conditions, bridge names/ cables/ overhead clearance etc.)
3	28° 45.2' N	089° 53.4' W	297.2																				58	44.9	36.5	PLATFORM C E 133-1// Monitor traffic / Vol avoid / Navi wings. Vol is in Marpol special area / ECA / EOSP
4	28° 51.5' N	090° 7.4' W	297.2	13.6	II	S	GPS	15	Y	Y	Y	Y	W	N	Y	Y	Y	Y	III	S	N	√	30	17.15	36.75	LOOP BUNKERING AREA // Drop anchor / Bunkering

*Open sea: Every 1 hr/ Coastal navigation: every 15 minutes

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ALMI TANKERS S.A.	INTEGRATED MANAGEMENT SYSTEM MANUAL Ch. 7.2
N-0010	UNDER KEEL CLEARANCE CALCULATION (UKC)

LAT	28-17.5N					28-51.5N							
LONG	090-32.0W					090-07.4EW							
or AREA	AT ANCHOR SWPLA	WP00-01	WP01-02	WP02-03	WP03-04	AT ANCHOR LOOP							
1	Lowest Tide for Date Range or	0	0	0	0	0	0						
	Highest Tide for Date Range (whichever is applicable)												
2	Assumed Datum Depth (Chart Data)	58	62	74	58	30.0	28.6						
3	Depth Water Available (1+2)	58.00	62.00	74.00	58.00	30.00	28.60						
4	Vessel's Maximum Draft Saltwater	12.10	12.10	12.10	12.10	12.10	12.1						
5	Adjusted Draft for Salinity	12.10	12.10	12.10	12.10	12.10	12.1						
6	Increase due to Rolling and Pitching	0	0.21	0.21	0.21	0.21	0						
7	Underkeel Clearance Excluding Squat (3-(5+6))	45.90	49.69	61.69	45.69	17.69	16.50						
8	Underkeel Clearance Required (Min. UKC)	1.21	1.21	1.21	1.21	1.21	1.21						
9	Maximum Allowed Squat (7-8)	44.69	48.48	60.48	44.48	16.48	15.29						
10	Correspondent Speed (through the water) for Allowed Squat	VSL AT ANCHOR	>20Knots	>20Knots	>20Knots	>20Knots	VSL AT ANCHOR						

IF COMPANY'S UKC POLICY CANNOT BE SATISFIED BE GUIDED AS PER MSM CH 7.2.6.13

If the required UKC is accomplished with specific tidal height only, report the time frames of the safe passage:

DATE		FROM:		TO:		HEIGHT:		DATE:		FROM:		TO:		HEIGHT:
DATE		FROM:		TO:		HEIGHT:		DATE:		FROM:		TO:		HEIGHT:
DATE		FROM:		TO:		HEIGHT:		DATE:		FROM:		TO:		HEIGHT:

Note: 1.White cells manual entry is required while for grey cells are protected and auto calculated. (01.11.2014)

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NO GO AREA CALCULATION

Ship's Static Draft	12.1	mtrs
Safety Margin (10% of static draft)	1.21	mtrs
No go area	13.31	mtrs

Safety contour is set up at	10.00
Safety depth at	14.00

SQUAT CALCULATION

Confined waters' squat= 2 x CB x (V^2/100)
Open waters' squat= CB x (V^2/100)

V= vessel speed
CB= volume of displacement/ L x B x D

L= length overall/ B= extreme depth/ D= depth moulded

SQUAT CALCULATION (CONFINED WATERS)

DRAFT (meters)	Speed (knots through the water)														
	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0
6.00m	0.06	0.14	0.24	0.38	0.54	0.74	0.97	1.22	1.51	1.83	2.17	2.55	2.96	3.39	3.86
6.50m	0.06	0.14	0.24	0.38	0.55	0.74	0.97	1.23	1.52	1.84	2.18	2.56	2.97	3.41	3.88
7.00m	0.06	0.14	0.24	0.38	0.55	0.75	0.98	1.23	1.52	1.84	2.20	2.58	2.99	3.43	3.90
7.50m	0.06	0.14	0.25	0.38	0.55	0.75	0.98	1.24	1.53	1.85	2.21	2.59	3.00	3.45	3.92
8.00m	0.06	0.14	0.25	0.38	0.55	0.75	0.98	1.25	1.54	1.86	2.22	2.60	3.02	3.46	3.94
8.50m	0.06	0.14	0.25	0.39	0.56	0.76	0.99	1.25	1.55	1.87	2.23	2.61	3.03	3.48	3.96
9.00m	0.06	0.14	0.25	0.39	0.56	0.76	0.99	1.26	1.55	1.88	2.23	2.62	3.04	3.49	3.97
9.50m	0.06	0.14	0.25	0.39	0.56	0.76	1.00	1.26	1.56	1.89	2.24	2.63	3.05	3.51	3.99
10.00m	0.06	0.14	0.25	0.39	0.56	0.77	1.00	1.27	1.56	1.89	2.25	2.64	3.07	3.52	4.01
10.50m	0.06	0.14	0.25	0.39	0.57	0.77	1.01	1.27	1.57	1.90	2.26	2.65	3.08	3.53	4.02
11.00m	0.06	0.14	0.25	0.39	0.57	0.77	1.01	1.28	1.58	1.91	2.27	2.67	3.09	3.55	4.04
11.50m	0.06	0.14	0.25	0.40	0.57	0.78	1.01	1.28	1.58	1.92	2.28	2.68	3.10	3.56	4.05
12.00m	0.06	0.14	0.25	0.40	0.57	0.78	1.02	1.29	1.59	1.92	2.29	2.69	3.12	3.58	4.07
12.50m	0.06	0.14	0.26	0.40	0.57	0.78	1.02	1.29	1.60	1.93	2.30	2.70	3.13	3.59	4.09
13.00m	0.06	0.14	0.26	0.40	0.58	0.79	1.03	1.30	1.60	1.94	2.31	2.71	3.14	3.61	4.10
13.50m	0.06	0.14	0.26	0.40	0.58	0.79	1.03	1.30	1.61	1.95	2.32	2.72	3.16	3.62	4.12
14.00m	0.06	0.15	0.26	0.40	0.58	0.79	1.03	1.31	1.61	1.95	2.33	2.73	3.17	3.63	4.13
14.50m	0.06	0.15	0.26	0.41	0.58	0.79	1.04	1.31	1.62	1.96	2.33	2.74	3.18	3.65	4.15
15.00m	0.07	0.15	0.26	0.41	0.59	0.80	1.04	1.32	1.63	1.97	2.34	2.75	3.19	3.66	4.17
15.50m	0.07	0.15	0.26	0.41	0.59	0.80	1.05	1.32	1.63	1.98	2.35	2.76	3.20	3.67	4.18
16.00m	0.07	0.15	0.26	0.41	0.59	0.80	1.05	1.33	1.64	1.98	2.36	2.77	3.21	3.69	4.20
16.50m	0.07	0.15	0.26	0.41	0.59	0.81	1.05	1.33	1.64	1.99	2.37	2.78	3.22	3.70	4.21
17.00m	0.07	0.15	0.26	0.41	0.59	0.81	1.06	1.34	1.65	2.00	2.38	2.79	3.23	3.71	4.22
17.50m	0.07	0.15	0.26	0.41	0.60	0.81	1.06	1.34	1.66	2.00	2.38	2.80	3.24	3.72	4.24
18.00m	0.07	0.15	0.27	0.42	0.60	0.81	1.06	1.34	1.66	2.01	2.39	2.81	3.25	3.74	4.25

* Draft with corresponded speed to be highlighted

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SQUAT CALCULATION (OPEN WATERS)

DRAFT (meters)	Speed (knots through the water)														
	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0
6.00m	0.03	0.07	0.12	0.19	0.27	0.37	0.48	0.61	0.75	0.91	1.09	1.27	1.48	1.70	1.93
6.50m	0.03	0.07	0.12	0.19	0.27	0.37	0.49	0.61	0.76	0.92	1.09	1.28	1.49	1.71	1.94
7.00m	0.03	0.07	0.12	0.19	0.27	0.37	0.49	0.62	0.76	0.92	1.10	1.29	1.49	1.72	1.95
7.50m	0.03	0.07	0.12	0.19	0.28	0.38	0.49	0.62	0.77	0.93	1.10	1.29	1.50	1.72	1.96
8.00m	0.03	0.07	0.12	0.19	0.28	0.38	0.49	0.62	0.77	0.93	1.11	1.30	1.51	1.73	1.97
8.50m	0.03	0.07	0.12	0.19	0.28	0.38	0.49	0.63	0.77	0.94	1.11	1.31	1.51	1.74	1.98
9.00m	0.03	0.07	0.12	0.19	0.28	0.38	0.50	0.63	0.78	0.94	1.12	1.31	1.52	1.75	1.99
9.50m	0.03	0.07	0.12	0.19	0.28	0.38	0.50	0.63	0.78	0.94	1.12	1.32	1.53	1.75	1.99
10.00m	0.03	0.07	0.13	0.20	0.28	0.38	0.50	0.63	0.78	0.95	1.13	1.32	1.53	1.76	2.00
10.50m	0.03	0.07	0.13	0.20	0.28	0.38	0.50	0.64	0.79	0.95	1.13	1.33	1.54	1.77	2.01
11.00m	0.03	0.07	0.13	0.20	0.28	0.39	0.50	0.64	0.79	0.95	1.14	1.33	1.55	1.77	2.02
11.50m	0.03	0.07	0.13	0.20	0.29	0.39	0.51	0.64	0.79	0.96	1.14	1.34	1.55	1.78	2.03
12.00m	0.03	0.07	0.13	0.20	0.29	0.39	0.51	0.64	0.79	0.96	1.14	1.34	1.56	1.79	2.03
12.50m	0.03	0.07	0.13	0.20	0.29	0.39	0.51	0.65	0.80	0.97	1.15	1.35	1.56	1.80	2.04
13.00m	0.03	0.07	0.13	0.20	0.29	0.39	0.51	0.65	0.80	0.97	1.15	1.35	1.57	1.80	2.05
13.50m	0.03	0.07	0.13	0.20	0.29	0.39	0.52	0.65	0.80	0.97	1.16	1.36	1.58	1.81	2.06
14.00m	0.03	0.07	0.13	0.20	0.29	0.40	0.52	0.65	0.81	0.98	1.16	1.36	1.58	1.82	2.07
14.50m	0.03	0.07	0.13	0.20	0.29	0.40	0.52	0.66	0.81	0.98	1.17	1.37	1.59	1.82	2.07
15.00m	0.03	0.07	0.13	0.20	0.29	0.40	0.52	0.66	0.81	0.98	1.17	1.37	1.59	1.83	2.08
15.50m	0.03	0.07	0.13	0.20	0.29	0.40	0.52	0.66	0.82	0.99	1.18	1.38	1.60	1.84	2.09
16.00m	0.03	0.07	0.13	0.20	0.29	0.40	0.52	0.66	0.82	0.99	1.18	1.38	1.61	1.84	2.10
16.50m	0.03	0.07	0.13	0.21	0.30	0.40	0.53	0.67	0.82	0.99	1.18	1.39	1.61	1.85	2.10
17.00m	0.03	0.07	0.13	0.21	0.30	0.40	0.53	0.67	0.82	1.00	1.19	1.39	1.62	1.86	2.11
17.50m	0.03	0.07	0.13	0.21	0.30	0.41	0.53	0.67	0.83	1.00	1.19	1.40	1.62	1.86	2.12
18.00m	0.03	0.07	0.13	0.21	0.30	0.41	0.53	0.67	0.83	1.00	1.20	1.40	1.63	1.87	2.12

* Draft with corresponded speed to be highlighted

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Rolling and Pitching Table

Increase of Draft due to Rolling

Degrees	Beam (m)			
	AFRA	AFRA	SUEZ	VLCC
	42	44	48.03	60.04
0.5	0.18	0.19	0.21	0.26
1	0.37	0.38	0.42	0.52
2	0.73	0.77	0.84	1.05
3	1.10	1.15	1.26	1.57
4	1.46	1.53	1.68	2.09
5	1.83	1.92	2.09	2.62
6	2.20	2.30	2.51	3.14
7	2.56	2.68	2.93	3.66
8	2.92	3.06	3.34	4.18
9	3.29	3.44	3.76	4.70
10	3.65	3.82	4.17	5.21
11	4.01	4.20	4.58	5.73
12	4.37	4.57	4.99	6.24
13	4.72	4.95	5.40	6.75
14	5.08	5.32	5.81	7.26
15	5.44	5.69	6.22	7.77
16	5.79	6.06	6.62	8.27
17	6.14	6.43	7.02	8.78
18	6.49	6.80	7.42	9.28
19	6.84	7.16	7.82	9.77
20	7.18	7.52	8.21	10.27

Increase of Draft due to Pitching

Degrees	Length (m)			
	AFRA	AFRA	SUEZ	VLCC
	244	250	274	333
0.5	1.06	1.09	1.20	1.45
1	2.13	2.18	2.39	2.91
2	4.26	4.36	4.78	5.81
3	6.38	6.54	7.17	8.71
4	8.51	8.72	9.56	11.61
5	10.63	10.89	11.94	14.51
6	12.75	13.07	14.32	17.40
7	14.87	15.23	16.70	20.29
8	16.98	17.40	19.07	23.17
9	19.09	19.55	21.43	26.05
10	21.19	21.71	23.79	28.91

Calculations (e.g. UKC) for the increase of draft due to rolling & pitching can be based on these tables or to the wheelhouse-maneuvering characteristics poster, according to Master's discretion.

FORMULA FOR INCREASE IN DRAFT DUE TO ROLL(LIST)

The formula for calculating the increase in draft for "X" degrees of list (roll) is:

Draft Increase = Vessel Beam ÷ 2 x Sine of List Angle

FORMULA FOR INCREASE IN DRAFT DUE TO PITCH

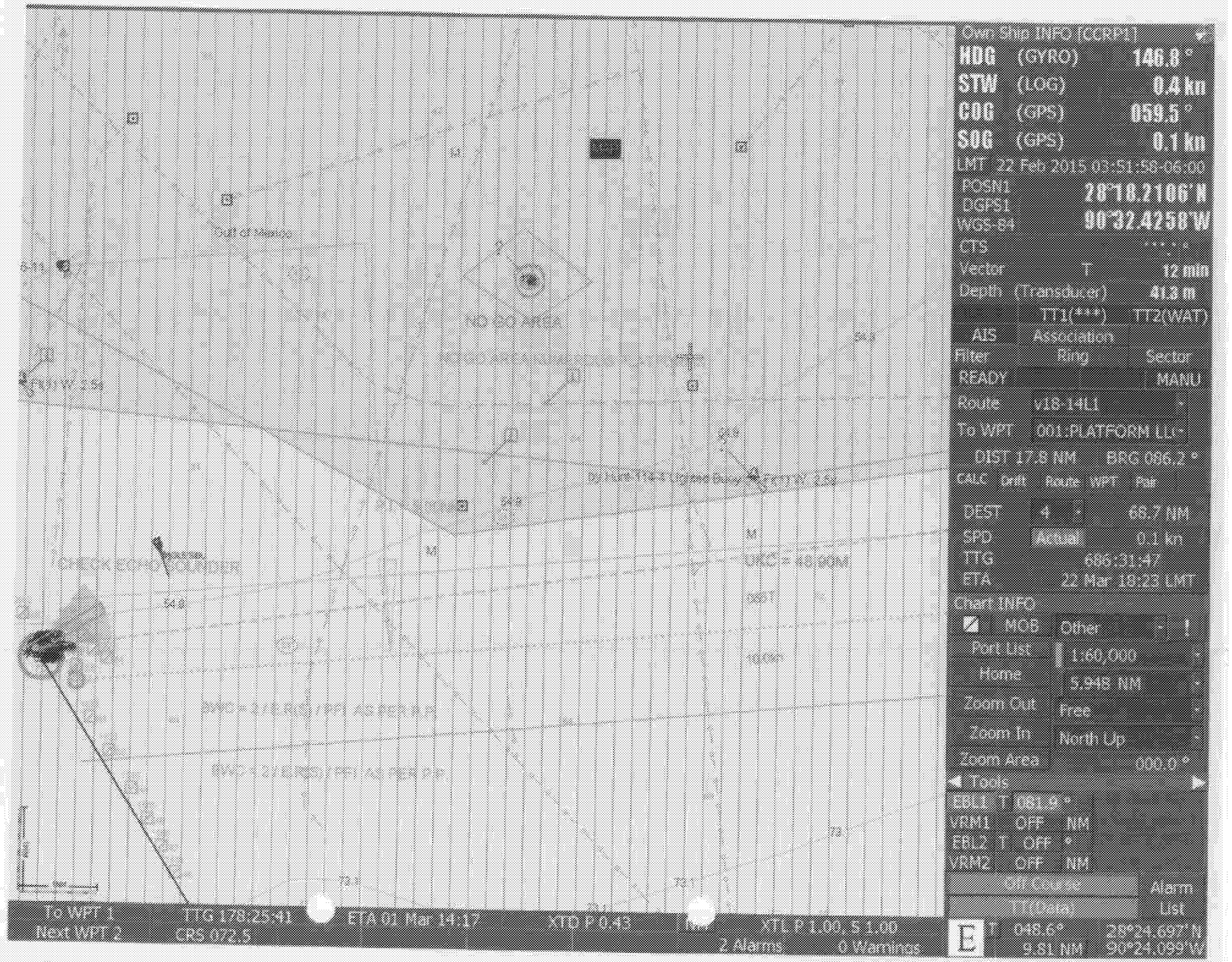
The formula for calculating the increase in draft for "X" degrees of pitch is:

Draft Increase = Vessel Length ÷ 2 x Sine of Pitch Angle

(Formula assumes tipping center is at midpoint. That means, that the clinometers is placed in the middle of the vessel)

Calculations References:

- Brown's Nautical Almanac
- The Marine Exchange of Southern California (http://www.mxsocal.org/pdffiles/Chap%20XIV%20Underkeel%20Clearance.pdf)



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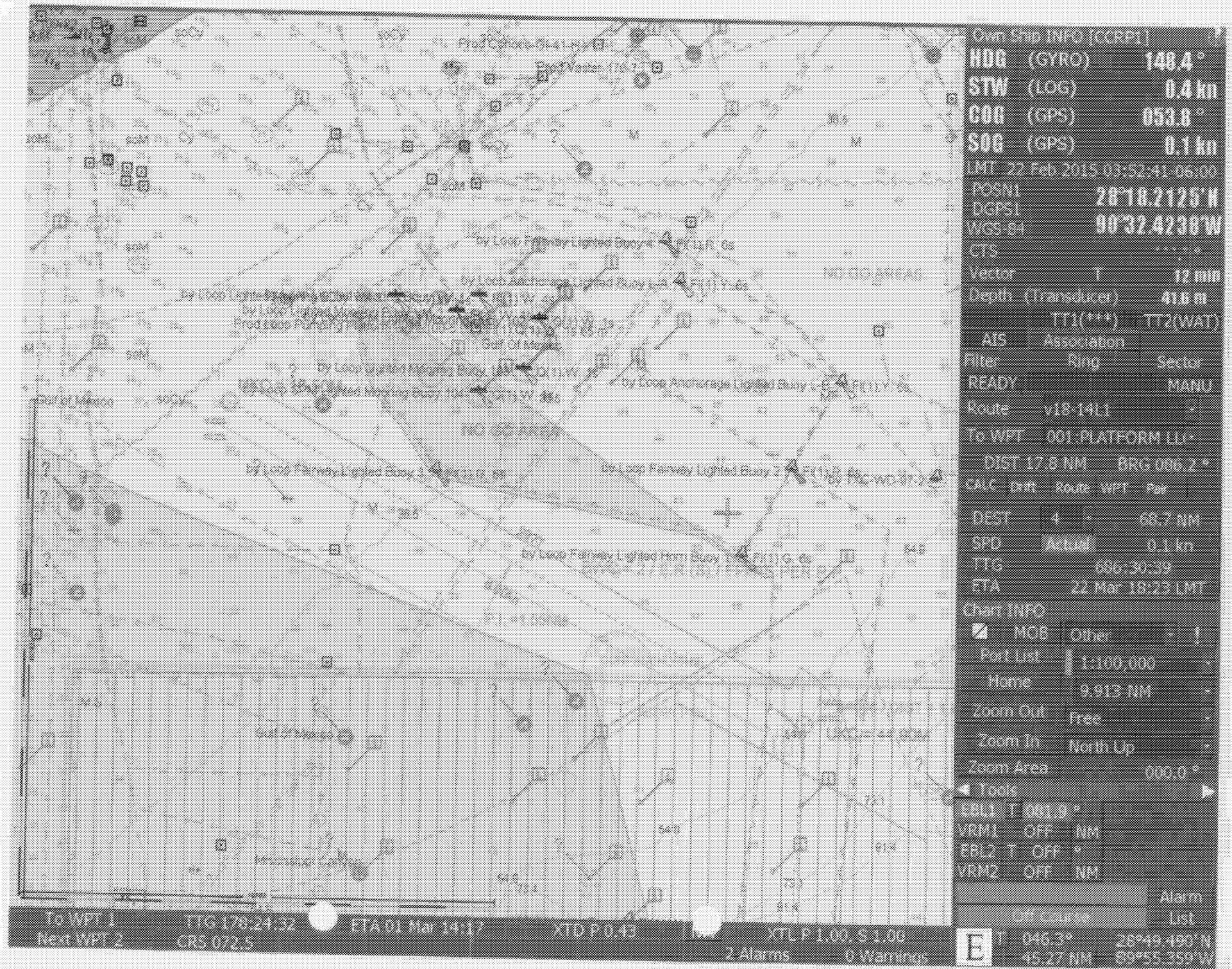
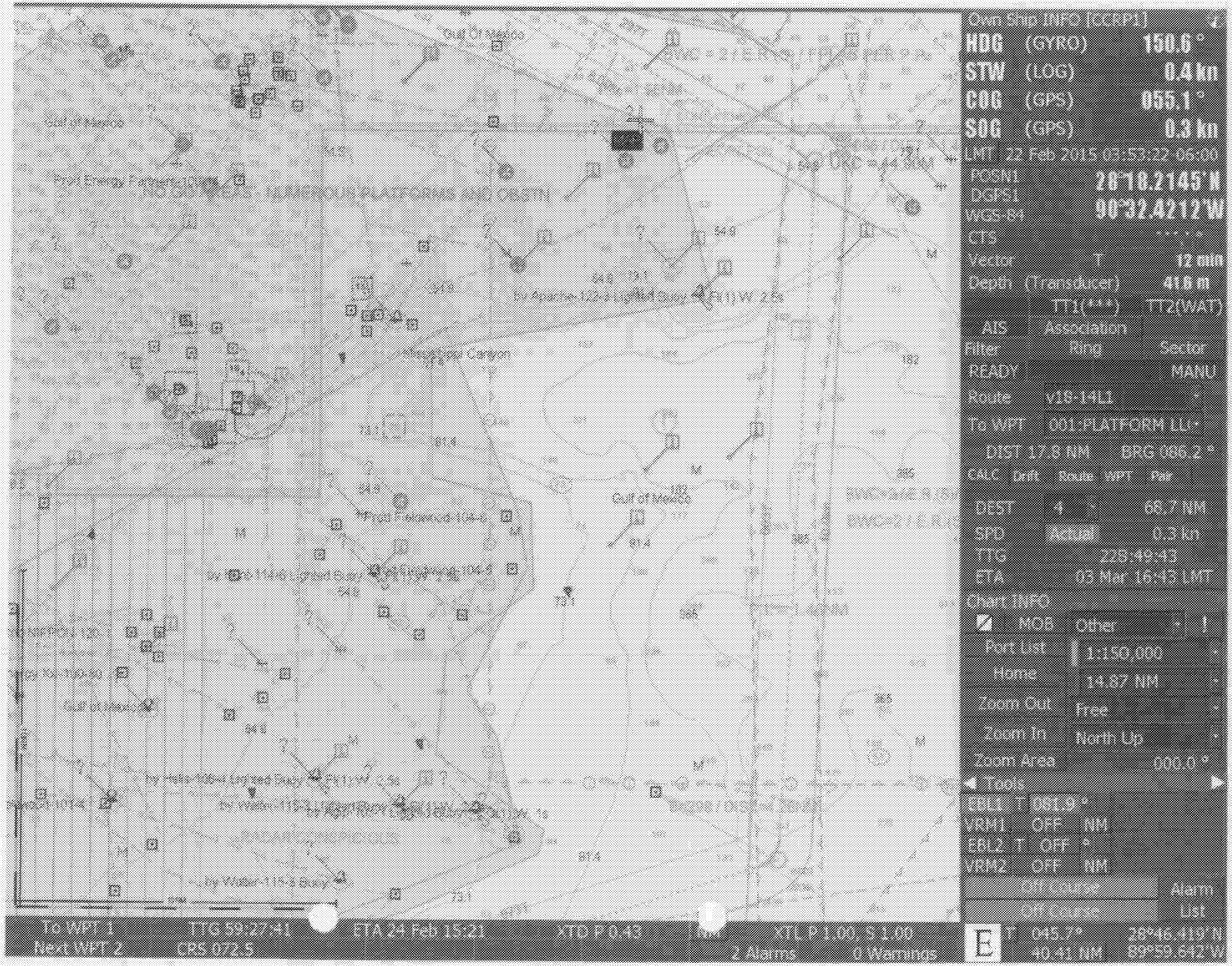

Own Ship INFO (GPS1)
HDG (GYRO) 148.4 °
STW (LOG) 0.4 kn
COG (GPS) 053.8 °
SOG (GPS) 0.1 kn
LMT 22 Feb 2015 03:52:41 (-05:00)
POSN1 28°18.2125'N
DGPS1 90°32.4238'W
WGS-84
GPS
Vector T 12 min
Depth (Transducer) 41.6 m
TT1(444) TT2(WAT)
AIS Association
Filter Ring Sector
READY MANU
Route V18 [41]
To WPT 001:PLATFORM LLC
DIST 17.8 NM BRG 068.2 °
CALC Drift Route WPT Par
DEST 4 68.7 NM
SPD Actual 0.1 kn
TTG 680:39:39
ETA 22 Mar 18:23 LMT
Chart INFO
MGB Other
Fwd List L:100.00
Home 9.913 NM
Zoom Out Free
Zoom In North Up
Zoom Area 000.0 °
Tools
EBL1 T 068.2 °
VRM1 OFF NM
EBL2 T OFF °
VRM2 OFF NM
Alarm List
To WPT 1 TTG 178:24:32 ETA 01 Mar 14:17 XTD P 0.43 XTL P 1.00.5 1.08
Next WPT 2 CBS 07:25 2 Alarms 0 Warning
T 046.3° 28°19.490'N
45.27 NM 89°55.359'W



ED_002238_00000728-00014

2601 Southwest Pass
28°56'N 89°26'W United States 18 February 2015 +0600
Data Area 9. North America (E coast) & Caribbean Version 14

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19:00	0.2 m
20:00	0.2 m
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22:00	0.3 m
23:00	0.2 m

11:00	0.0 m
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14:00	0.0 m
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18:00	0.0 m
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21:00	0.1 m
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23:00	0.1 m

11:00	0.1 m
12:00	0.1 m
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11:00	0.2 m
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19/02/2015	
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07:00	-0.1 m
08:00	-0.1 m
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24/02/2015	
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07:00	0.1 m
08:00	0.2 m
09:00	0.2 m
10:00	0.2 m

Tide is usually diurnal
Predicted heights are in metres above Chart Datum
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