

according to IMO Res. A. 601 (15)

Ship's name **MSC NEDERLAND**YARD N^o 93Call sign **HPMR**

The response of mv MSC Nederland may be different from that listed above if any of the following condition, upon which the maneuvering information is based, are varied:

1. Calm weather-wind 10 knots or less seas calm;
2. No current;
3. Water depth twice the vessel's draft or greater;
4. Clean hull, and
5. Intermediate drafts or unusual trim.

DRAUGHTS AT WHICH THE MANOEUVRING DATA WERE OBTAINED

	Loaded		Ballast	
	Trial/Estimated		Trial/Estimated	
Forward	11.00	m	5.69	m
Aft	11.00	m	8.25	m

PROPULSION PARTICULARS

Type of engine		BV/MAN-B&W			21700 kW (29510 hp)		
Type of propeller		FIXED BLADES, DIAM. 7700 mm					
Engine order		Rpm/Pitch setting	Speed (kts) LoadedBallast		Engine order	Rpm/Pitch setting	
ahead	Full sea speed	88	20.4	21.6	astern	(85)	
	Full	70	16.4	17.2		Full	70
	Half	54	12.8	13.5		Half	54
	Slow	37	7.4	8.0		Slow	37

SHIP'S PARTICULARS

Gross tonnage	(1969)	37071 BRZ
Net tonnage		15889 NRZ
Displacement, maximum		61612 t
Deadweight, maximum		47127 t
Block coefficient at summer full load draught		0.6895

STEERING PARTICULARS

Type of rudder(s)	1 SEMI BALANCED
Maximum rudder angle	35 DEG.
Time hard-over to hard-over with one power unit	28
Time hard-over to hard-over with two power units	14.5
Minimum speed to maintain course, propeller stopped	ABT. 3.0 k
Rudder angle for neutral effect	1 DEG. °port/starboard

THRUSTER EFFECT AT TRIAL CONDITIONS

Thruster	kW (hp)	Time delay for full thrust	Turning rate at zero speed	Time delay to reverse full thrust	Not effective above speed
Bow	1300	15 s	18 °/min	— min 25 s	ABT. 7.0 k
Stern	—	— s	— °/min	— min — s	— k
Combined	—	— s	— °/min	— min — s	— k

DRAUGHT INCREASE (LOADED)

according to IMO Res. A. 601 (15)

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Prepared by BREMER VULKAN AG

Date 29th OCTOBER 1992

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ANCHOR CHAIN

	Number of shackles	Max. rate of heaving (min/shackle)
Port	12	3' 7"
Starboard	13	3' 7"
Stern	—	—
1 shackle = 27.5 m $\hat{=}$ 15 fathoms		

THRUSTER EFFECT AT TRIAL CONDITIONS

Thruster	kW (hp)	Time delay for full thrust	Turning rate at zero speed	Time delay to reverse full thrust	Not effective above speed
Bow	1300	15 s	18 %/min	— min 25 s	ABT. 7.0 kts
Stern	—	— s	— %/min	— min — s	— kts
Combined	—	— s	— %/min	— min — s	— kts

MAN OVERBOARD RESCUE MANOEUVRE

Sequence of actions to be taken:

- to cast a lifebuoy
- to give the helm order
- to sound the alarm
- to keep the look-out

TRIAL BALLAST

Insert a recommended turn WILLIAMSON P or S

510 hp)
mm
Rpm/Pitch
setting
(85)
70
54

ahead	Full sea speed	88	20.4	21.6	astern		(85)
	Full	70	16.4	17.2		Full	70
	Half	54	12.8	13.5		Half	54
	Slow	37	7.4	8.0		Slow	37
	Dead slow	20	2.5	3.0		Dead slow	20
Critical revolutions		26 – 31			rpm		
Minimum revolution		20	rpm $\cong$ ABT. 3.0			kts	
Time limit astern		NONE			min		
Time limit at minimum revolutions		NONE			min		
Emergency full ahead to full astern (70 RPM)		6 min.			s		
Stop to full astern		90			s		
Astern power		ABT. 90			%ahead		
Maximum number of consecutive starts		(1 UNIT)			13		

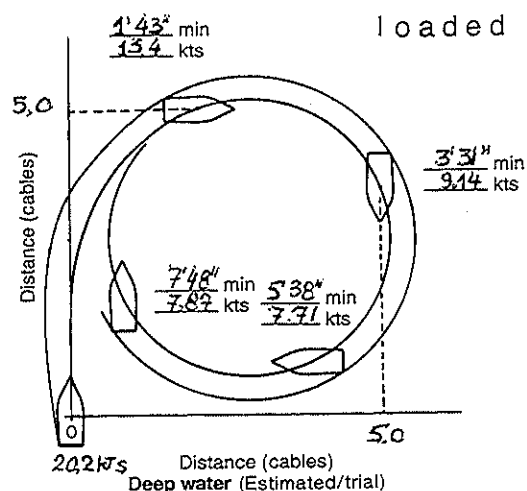
Combined	—	—	s	—	%/min	—	min	—	s	—	k
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DRAUGHT INCREASE (LOADED)

Estimated squat effect		
Under keel clearance	Ship's speed	Max. squat at bow / stern
6.0 m	16 kts	1.93 m
	12 kts	1.06 m
	8 kts	0.46 m
2.4 m	10 kts	1.03 m
	6 kts	0.36 m

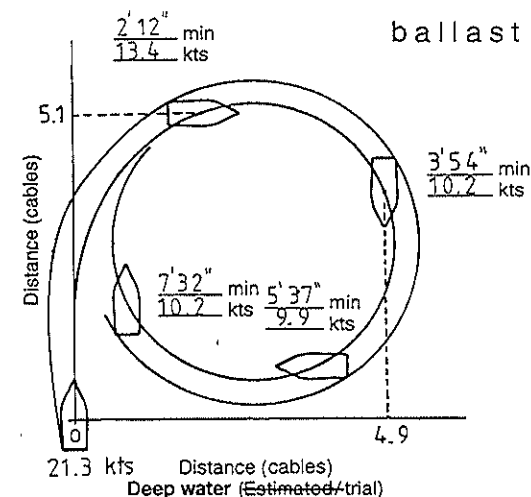
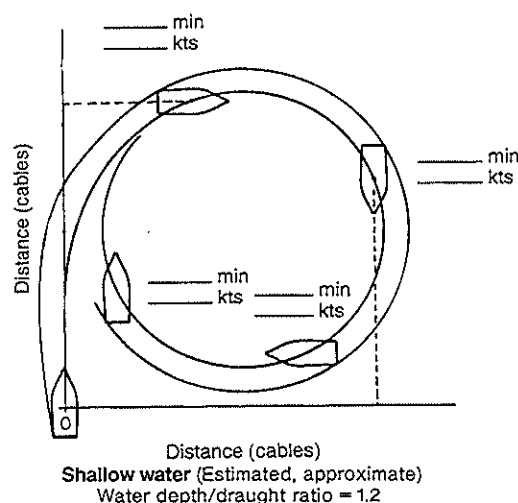
Heel effect	
Heel angle	Draught increase
2°	0.38
4°	0.81
8°	1.56
12°	2.21
16°	2.85

DRAFT: FORE 9.30m AFT 11.10m
Ship Loaded at 78 per cent.



TURNING CIRCLES AT MAXIMUM RUDDER ANGLE

1 cable = 0.1 nautical mile



EMERGENCY MANOEUVRES

loaded



STOPPING CHARACTERISTICS

Track-reach
(cables)

loaded
(CALCULATION)

ballast
(TRIAL)

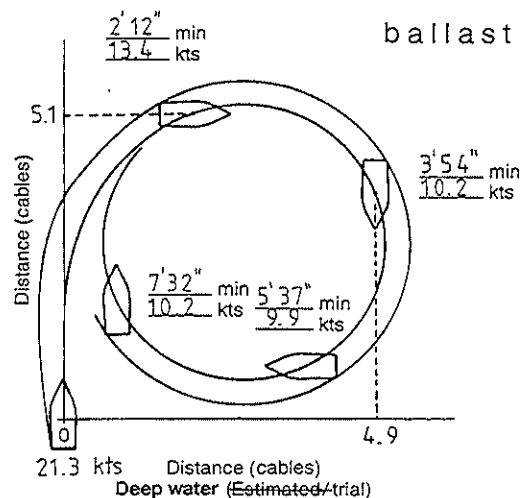
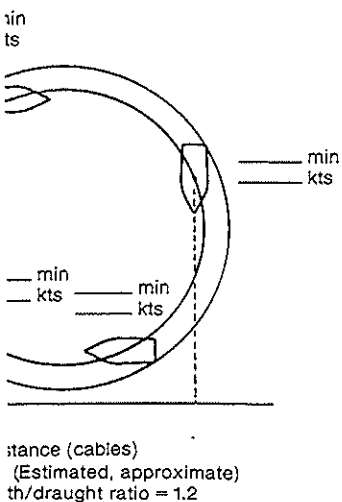
(85)	Combined	—	—	s	—	°/min	—	min	—	s	—	kts
70												
54												
37												
20												
rpm												
kts												
min												
min												
—												
s												
%ahead												

DRAUGHT INCREASE (LOADED)			
Estimated squat effect			
Under keel clearance	Ship's speed	Max. squat at bow / stern	
6.0 m	16 kts	1.93 m	
	12 kts	1.06 m	
	8 kts	0.46 m	
2.4 m	10 kts	1.03 m	
	6 kts	0.36 m	

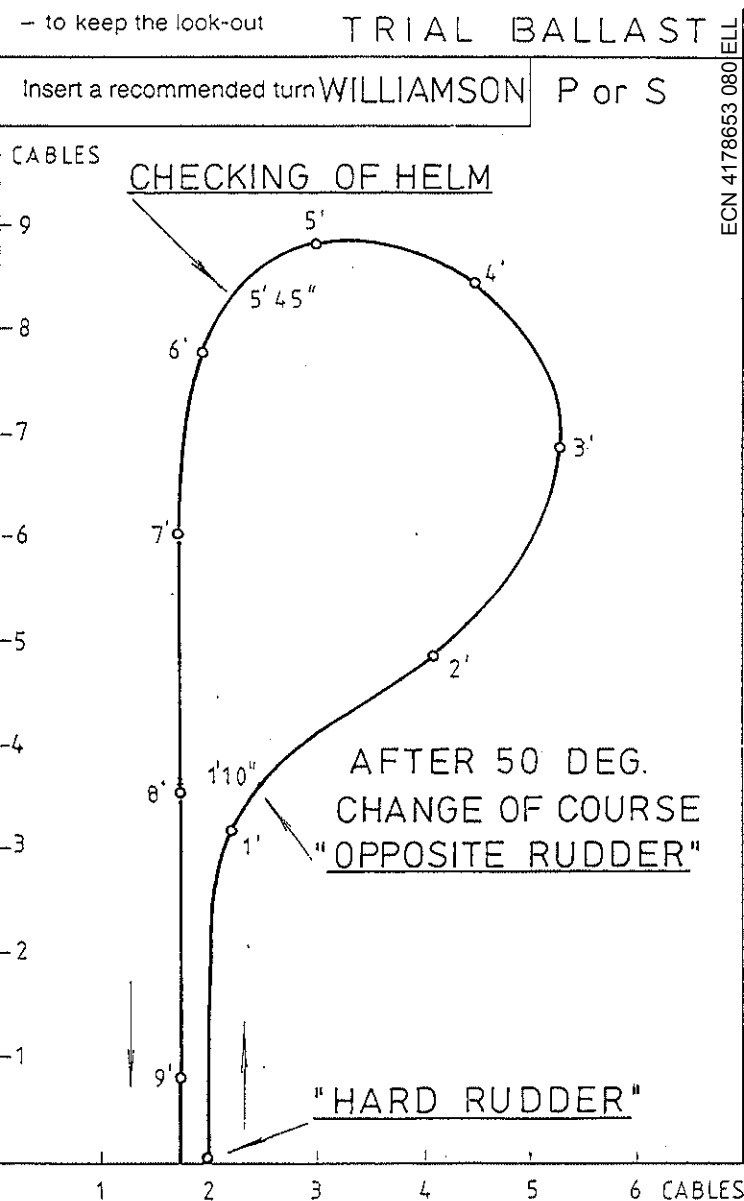
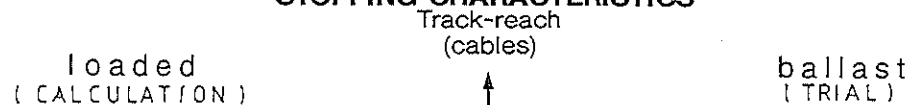
Heel effect	
Heel angle	Draught increase
2°	0.38 m
4°	0.81 m
8°	1.56 m
12°	2.21 m
16°	2.85 m

3 CIRCLES AT MAXIMUM RUDDER ANGLE

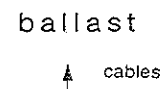
1 cable = 0.1 nautical mile

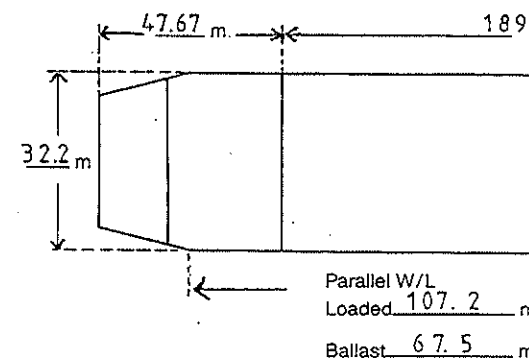
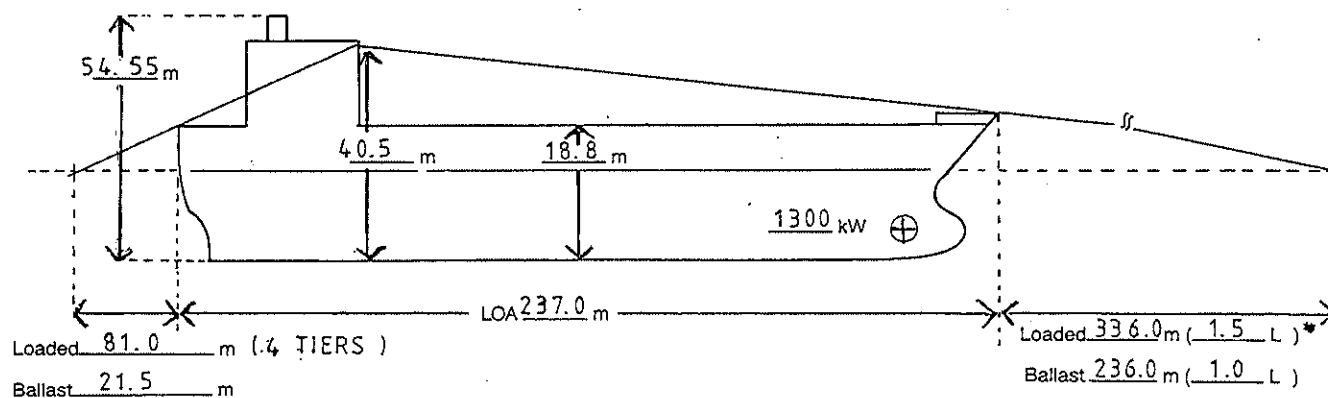
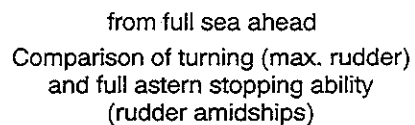


STOPPING CHARACTERISTICS



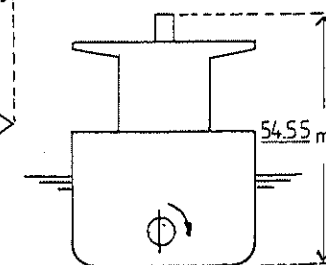
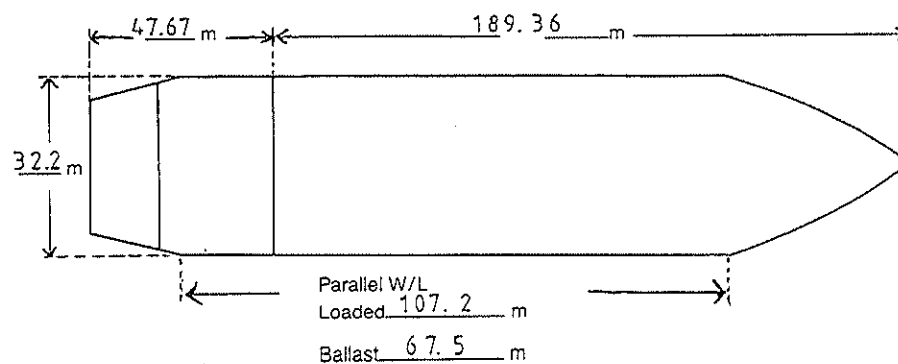
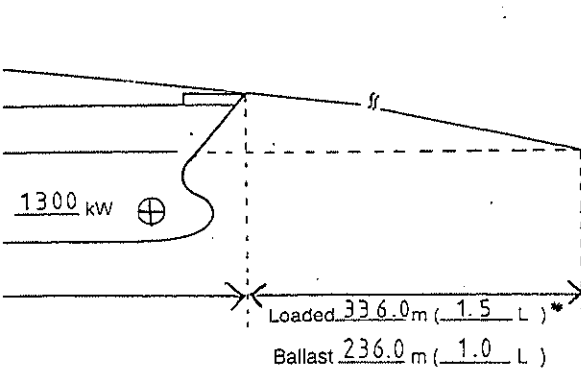
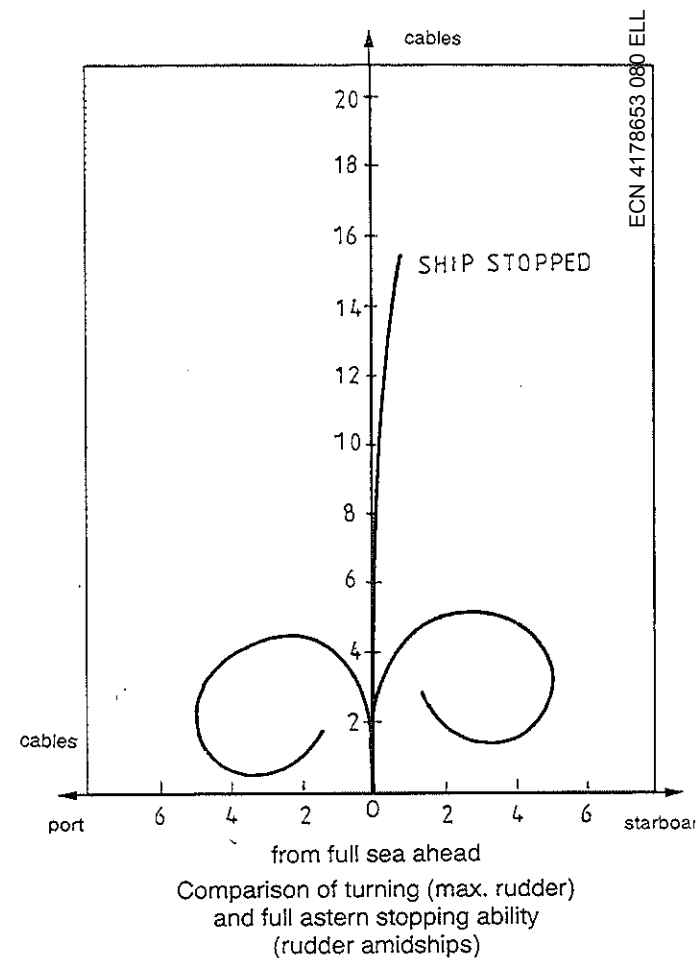
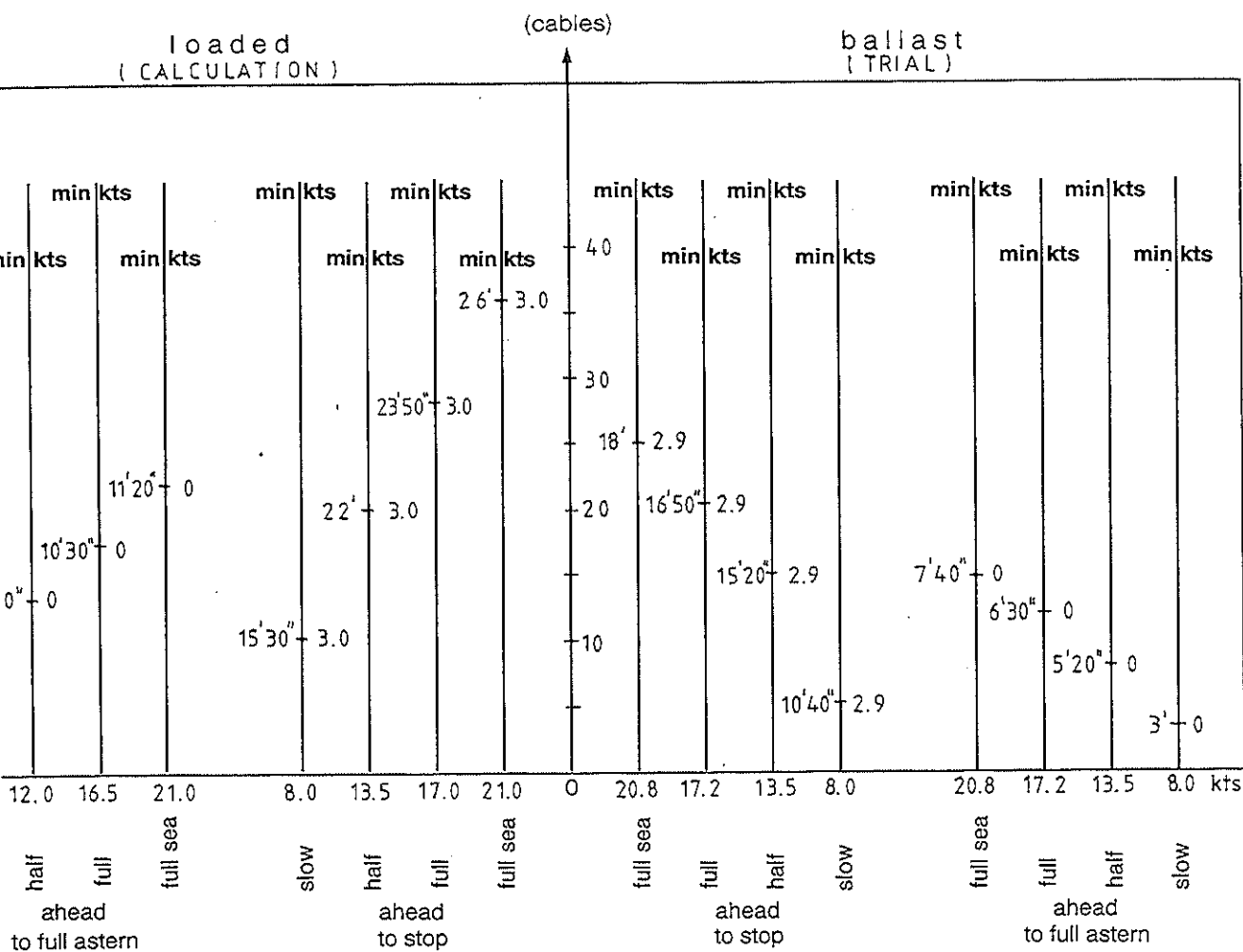
EMERGENCY MANOEUVRES





* IMO 11.0 m [PANAMA 12.24m : 237.0m $\approx$ 1.0 L]

- 49 TEU



Bay Report

Condition: HOUARR29

Page: 1(3)

Date: 29-Oct-2011

Vessel: VLADIVOSTOK SENATOR, Hull N93 Bremer Vulkan

Voyage: 036A

BAY 43

12	10	08	06	04	02	00	01	03	05	07	09	11
					FPO-HOU-HOU CLHU 9065909	PEC-HOU-HOU TCNU 8725932	FPO-HOU-HOU MSCU 9423756					
					40' 19.00	40' 14.50	40' 17.80					
		FPO-HOU-HOU TCNU 8010547	FPO-HOU-HOU GLDU 0828210	FPO-HOU-HOU INKU 2287083	FPO-HOU-HOU TRLU 7540888	PEC-HOU-HOU INKU 6543727	FPO-HOU-HOU TCLU 5867062	FPO-HOU-HOU AMFU 8636114	FPO-HOU-HOU MSCU 7936977			
		40' 19.20	40' 19.20	40' 19.20	40' 19.00	40' 18.80	40' 14.30	40' 14.80	40' 9.30			
		FPO-HOU-HOU MSCU 8237058	FPO-HOU-HOU MSCU 7934119	FPO-HOU-HOU MSCU 9888080	FPO-HOU-HOU MEDU 9140849	PEC-HOU-HOU MEDU 6584346	FPO-HOU-HOU TGHU 7716226	FPO-HOU-HOU TRLU 5823378	FPO-HOU-HOU TEXU 5821283			
		40' 28.40	40' 29.60	40' 19.20	40' 25.40	40' 23.10	40' 29.90	40' 29.70	40' 22.10			

FPO-HOU-HOU MSCU 9015461	FPO-HOU-HOU MSCU 7936050	FPO-HOU-HOU MSCU 8082660		
40' 19.20	40' 27.30	40' 24.20		
FPO-HOU-HOU MSCU 9199702	FPO-HOU-HOU CARU 9621218	FPO-HOU-HOU MSCU 7959668	VIX-HOU-HOU TGHU 2573400	VIX-HOU-HOU MSCU 1660108
40' 25.40	40' 27.60	40' 24.90	20' 19.20	20' 22.20
FPO-HOU-HOU MEDU 8636286	FPO-HOU-HOU MEDU 8355890	FPO-HOU-HOU MSCU 7151751	VIX-HOU-HOU MSCU 1702348	VIX-HOU-HOU MEDU 1965080
40' 28.10	40' 28.30	40' 25.60	20' 24.70	20' 23.60
FPO-HOU-HOU MEDU 3218215	FPO-HOU-HOU GLDU 2823184	FPO-HOU-HOU MSCU 2657156	VIX-HOU-HOU MEDU 3472024	VIX-HOU-HOU TRLU 2858505
20' 19.50	20' 19.80	20' 20.30	20' 24.10	20' 24.40
	FPO-HOU-HOU MEDU 1248458	FPO-HOU-HOU MSCU 2417330	VIX-HOU-HOU MSCU 1430569	VIX-HOU-HOU AMFU 3011208
	20' 20.70	20' 21.60	20' 26.20	20' 23.70
		FPO-HOU-HOU MSCU 0206790	VIX-HOU-HOU TGHU 0066514	VIX-HOU-HOU TTNU 1831856
		20' 24.40	20' 24.10	20' 25.40

		FPO-HOU-HOU MSCU 8037713	FPO-HOU-HOU MSCU 8111603	FPO-HOU-HOU CARU 9779100
		40' 25.00	40' 25.90	40' 25.80
VIX-HOU-HOU MSCU 6089970	VIX-HOU-HOU MSCU 1603638	FPO-HOU-HOU MSCU 7070644	FPO-HOU-HOU MSCU 9736046	FPO-HOU-HOU MSCU 9512914
20' 8.30	20' 23.50	40' 25.40	40' 26.90	40' 27.80
VIX-HOU-HOU TGHU 1686724	VIX-HOU-HOU GLDU 0320480	FPO-HOU-HOU MSCU 9507164	FPO-HOU-HOU MEDU 8737717	FPO-HOU-HOU CLHU 8225509
20' 23.50	20' 23.80	40' 25.90	40' 28.40	40' 28.40
VIX-HOU-HOU MSCU 0124327	VIX-HOU-HOU MEDU 3477113	FPO-HOU-HOU MSCU 3500900	FPO-HOU-HOU MSCU 3104953	FPO-HOU-HOU MSCU 1840218
20' 23.90	20' 23.30	20' 21.30	20' 20.40	20' 20.20
VIX-HOU-HOU FSCU 3467981	VIX-HOU-HOU MSCU 2189014	FPO-HOU-HOU MSCU 2129020	FPO-HOU-HOU MEDU 1017973	
20' 25.60	20' 24.30	20' 23.80	20' 23.80	
VIX-HOU-HOU CAXU 2341885	VIX-HOU-HOU MEDU 3098892	FPO-HOU-HOU MEDU 3526537		
20' 25.30	20' 24.60	20' 29.20		

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Page: 1(3)

Date: 29-Oct-2011

Voyage: 036A

ECN 4178653 080 ELL

	12	10	08	06	04	02	00	01	03	05	07	09	11
92													
90													
88		ATM-CAL-QUE MEDU 1028173											
86		20' 4.48 ATM-CAL-RNG MSCU 1773509											
84		20' 8.73 ATM-CAL-CAU MSCU 6759619											
82		IMDG 2.2 20' 16.76										20' 20.95 ATM-CAL-CAU MSCU 3846760	

VER-5527-SSZ

MSCU 2239463

20 5:30

16
14
12
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06
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02

Bay Report

Condition: HOUARR29

Page: 1(3)

Date: 29-Oct-2011

Vessel: VLADIVOSTOK SENATOR, Hull N93 Bremer Vulkan

Voyage: 036A

BAY 39

12	10	08	06	04	02	00	01	03	05	07	09	11	
													92
													90
ATM-CAU-CAU MSCU 8784893 FAN 40' 9.63		ATM-CAU-CAU TGHU 8733841 FAN 40' 9.63	ATM-CAU-CAU MSCU 9407225 FAN 40' 8.62	ATM-CAU-CAU INKU 6534849 FAN 40' 9.00	ATM-CAU-CAU TCLU 5718980 FAN 40' 9.63	ATM-CAU-CAU MSCU 9190206 FAN 40' 9.63	ATM-CAU-BUE GLDU 0721950 FAN 40' 10.65	ATM-CAU-BUE TCNU 7803300 FAN 40' 11.84	ATM-CAU-MVD MEDU 8495547 FAN 40' 9.80	ATM-CAU-MVD MEDU 8820930 FAN 40' 8.84		ATM-CAU-CAU CLHU 4578790 FAN 40' 7.04	98
ATM-CAU-BUE MSCU 9930489 FAN 40' 13.09		ATM-CAU-CAU GLDU 7317446 FAN 40' 11.40	ATM-CAU-MVD MSCU 9733801 FAN 40' 13.99	ATM-CAU-MVD MSCU 9527391 FAN 40' 14.54	ATM-CAU-BUE MSCU 7731208 FAN 40' 10.09	ATM-CAU-BUE MSCU 9078359 FAN 40' 12.53	ATM-CAU-BUE MEDU 8825280 FAN 40' 10.65	ATM-CAU-BUE TCNU 6010594 FAN 40' 17.70	ATM-CAU-BUE GLDU 0825058 FAN 40' 10.37	ATM-CAU-MVD TGHU 8059110 FAN 40' 10.16		ATM-CAU-BUE TGHU 8740905 FAN 40' 11.84	96
ATM-CAU-MVD TCLU 5851059 FAN 40' 15.77	ATM-CAU-BUE MEDU 1531004 FAN 20' 12.34	ATM-CAU-BUE MSCU 8698400 FAN 40' 14.21	ATM-CAU-BUE CLHU 8359827 FAN 40' 13.65	ATM-CAU-MVD TCNU 7322811 FAN 40' 14.17	ATM-CAU-MVD CARU 9971690 FAN 40' 14.54	ATM-CAU-MVD TGHU 9884880 FAN 40' 17.91	ATM-CAU-MVD CAXU 9824228 FAN 40' 15.73	ATM-CAU-BUE MSCU 9083770 FAN 40' 19.78	ATM-CAU-BUE MSCU 9189728 FAN 40' 17.74	ATM-CAU-BUE TCNU 8784518 FAN 40' 17.70	ATM-CAU-MVD MEDU 3138082 FAN 20' 20.06	ATM-CAU-BUE MSCU 8349551 FAN 40' 15.70	94
ATM-CAU-MVD MSCU 7291373 FAN 40' 15.64	ATM-CAU-CAU MEDU 2059381 FAN 20' 17.07	ATM-CAU-BUE TCNU 9038237 FAN 40' 19.79	ATM-CAU-MVD MSCU 8303289 FAN 40' 15.64	ATM-CAU-MVD TGHU 9355388 FAN 40' 15.64	ATM-CAU-MVD CLHU 9060390 FAN 40' 17.63	ATM-SSZ-SSZ MEDU 8287883 FAN 40' 11.79	ATM-CAU-MVD MEDU 8371715 FAN 40' 17.91	ATM-CAU-BUE MSCU 9150060 FAN 40' 17.70	ATM-CAU-BUE MEDU 8115610 FAN 40' 18.80	ATM-CAU-CAU TGHU 4910095 FAN 40' 25.58	IMDG 3 20' 19.56	ATM-CAU-MVD TCLU 5476829 FAN 40' 16.82	92

VER-CAU-MVD MEDU 8458570 FAN 40' 16.90	VER-CAU-BUE MSCU 9442870 FAN 40' 15.30		ATM-SSZ-SSZ MSCU 7184502 FAN 40' 13.47	ATM-SSZ-SSZ GLDU 7374277 FAN 40' 13.47
VER-CAU-CAU MEDU 8682589 FAN 40' 10.80	VER-CAU-MVD TCNU 9831195 FAN 40' 18.80	VER-CAU-MVD MSCU 7860192 FAN 40' 16.80	ATM-SSZ-SSZ TGHU 9285133 FAN 40' 13.47	VER-SSZ-SSZ MEDU 8032429 FAN 40' 10.50
VER-CAU-LIO CLHU 4984108 FAN 40' 9.50	VER-CAU-LIO GLDU 7320542 FAN 40' 9.50	VER-CAU-CAU TGHU 8777830 FAN 40' 14.80	ATM-SSZ-SSZ TGHU 9285133 FAN 40' 23.87	VER-SSZ-SSZ MSCU 9764639 FAN 40' 9.00
VER-CAU-CAU TRIU 8275827 FAN 40' 12.70	VER-CAU-SUA MSCU 7110959 FAN 40' 17.20	VER-CAU-SUA TCNU 7948981 FAN 40' 15.80	ATM-SSZ-SSZ TCLU 5335896 FAN 40' 24.00	VER-SSZ-SSZ MSCU 8384751 FAN 40' 8.60
VER-CAU-SUA MSCU 7008205 FAN 40' 18.90	VER-CAU-CAU MSCU 8754071 FAN 40' 18.80	VER-CAU-CAU TGHU 7580747 FAN 40' 15.80	ATM-SSZ-SSZ TGHU 8763140 FAN 40' 30.30	VER-SSZ-SSZ CARU 9651146 FAN 40' 23.80
	VER-CAU-CAU MSCU 9242383 FAN 40' 29.50	VER-CAU-BUE MSCU 8236504 FAN 40' 20.10	ATM-SSZ-SSZ TGHU 1478044 FAN 20' 7.05	VER-SSZ-SSZ MSCU 8957812 FAN 40' 24.00

ATM-SSZ-SSZ TCNU 7347316 FAN 40' 12.72	ATM-SSZ-SSZ TCLU 5277187 FAN 40' 11.84	VER-CAU-BUE GLDU 7677674 FAN 40' 18.20	VER-CAU-MVD GLDU 7488818 FAN 40' 18.10	ATM-CAU-RIG MSCU 8837448 FAN 40' 20.98
VER-SSZ-SSZ MSCU 9731887 FAN 40' 11.30	VER-SSZ-SSZ TRLU 4284160 FAN 40' 10.00	VER-CAU-BUE INKU 8729603 FAN 40' 16.70	VER-CAU-BUE TCNU 7841381 FAN 40' 17.20	ATM-CAU-RIG GLDU 0870676 FAN 40' 20.25
VER-SSZ-SSZ MSCU 8510635 FAN 40' 9.00	VER-PEC-PEC CLHU 8695518 FAN 40' 8.50	VER-CAU-MVD MSCU 9878903 FAN 40' 9.40	VER-CAU-MVD MSCU 9083189 FAN 40' 16.40	ATM-CAU-CAU MSCU 8258404 FAN 40' 25.99
VER-SSZ-SSZ MSCU 8708245 FAN 40' 8.60	VER-PEC-PEC AMFU 8558371 FAN 40' 8.20	VER-CAU-SUA CLHU 8515405 FAN 40' 15.80	VER-CAU-CAU MSCU 7719754 FAN 40' 16.30	VER-CAU-MVD MSCU 8314513 FAN 40' 10.80
VER-SSZ-SSZ MSCU 9390415 FAN 40' 11.20	VER-PEC-PEC TGHU 8655383 FAN 40' 8.40	VER-CAU-MVD MSCU 9583440 FAN 40' 17.90	VER-CAU-SUA TRIU 9490848 FAN 40' 17.20	VER-CAU-SUA MSCU 9898983 FAN 40' 18.70
VER-SSZ-SSZ MSCU 9868187 FAN 40' 24.00	VER-PEC-PEC MSCU 8364622 FAN 40' 8.20	VER-CAU-PCR CAXU 9115154 FAN 40' 19.30	VER-CAU-CAU INKU 6577516 FAN 40' 17.50	