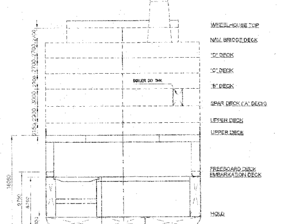
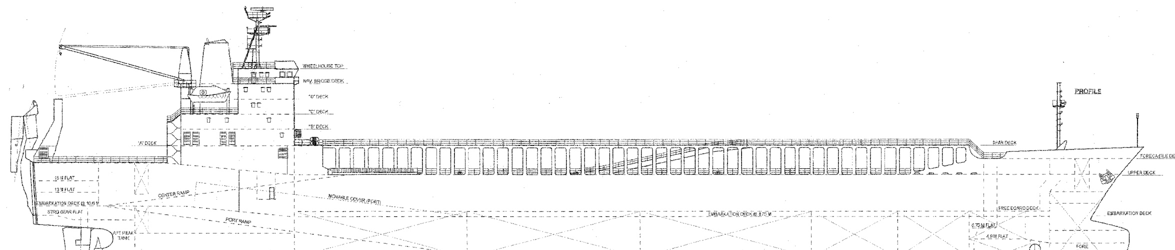


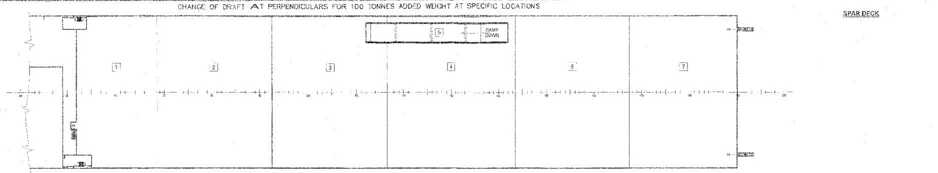
DECK HEIGHTS



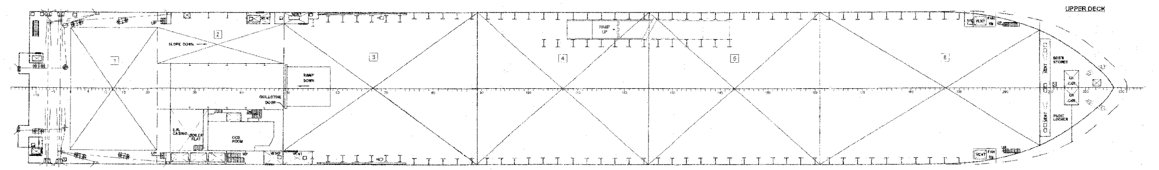
PROFILE

CHANGE OF DRAFT AT PERPENDICULARS FOR 100 TONNES ADDED WEIGHT AT SPECIFIC LOCATIONS

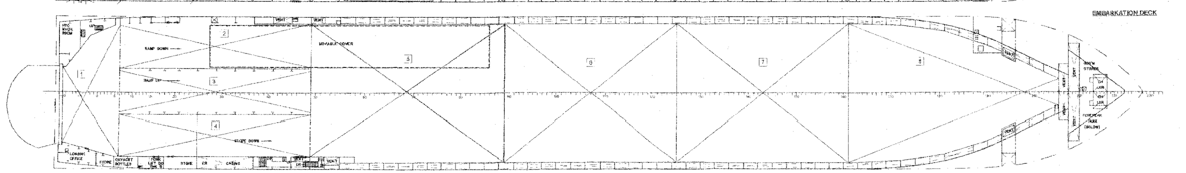
DRAFT 8.40 m AP mm	DRAFT 8.40 m FP mm	DRAFT 7.00 m AP mm	DRAFT 7.00 m FP mm
83	-52	101	64
80	-49	98	-61
78	-46	95	-57
76	-43	92	-54
73	-40	89	-51
71	-37	86	-48
69	-34	83	-44
66	-32	81	-41
64	29	78	-38
62	-26	75	-34
59	-23	72	-31
57	-20	69	-28
55	-17	66	-24
52	-14	63	-21
50	-11	61	-18
48	-8	58	-15
45	-5	55	-11
43	-2	52	-8
41	1	49	-5
38	3	46	-1
36	6	43	2
34	9	41	5
31	12	38	8
29	15	35	12
27	18	32	15
24	21	29	18
22	24	26	22
20	27	23	25
17	30	21	28
15	33	18	31
13	36	15	35
10	39	12	38
8	41	9	41
6	44	6	45
3	47	3	48
1	50	1	51
-1	53	-2	55
-4	56	-5	58
-6	59	-8	61
-9	62	-11	64
-11	65	-14	68
-13	68	-17	71
-16	71	-19	74
-18	74	-22	78
-20	76	-25	81
-23	79	-28	84
-25	82	-31	87
-27	85	-34	91
-30	88	-37	94
-32	91	-39	97
-34	94	-42	101
-37	97	-45	104
-39	100	-48	107
-41	103	-51	110
-44	106	-54	114
-46	109	-57	117
-48	111	-59	120
-51	114	-62	124
-53	117	-65	127



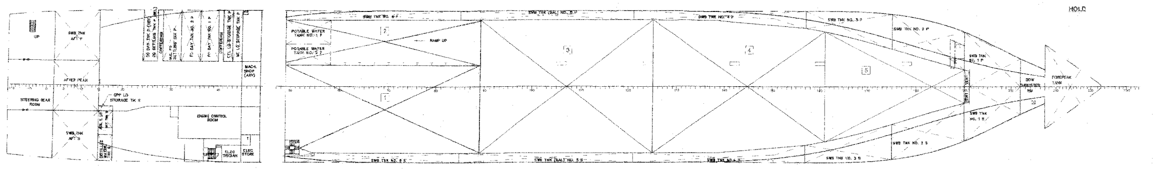
SPAR DECK



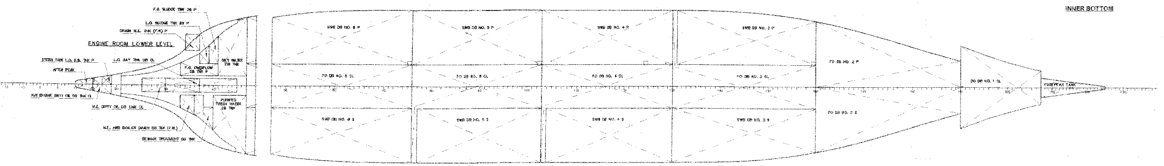
UPPER DECK



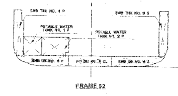
EMBARKATION DECK



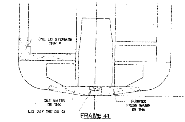
HOLD



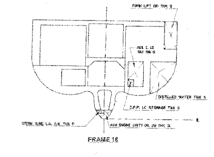
INNER BOTTOM



FRAME 52



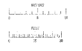
FRAME 41



FRAME 18

PRINCIPAL CHARACTERISTICS

LENGTH OVERALL	192.60 M
LENGTH B.P.	172.80 M
BEAM	26.50 M
DEPTH TO UPPER DECK	16.05 M
DEPTH TO EMBARKATION DECK	8.75 M
DESIGN DRAFT	7.00 M
DRAFT TO SUMMER LL (KEEL)	8.467 M
DISPLACEMENT AT DESIGN DRAFT	24,902 MT
DISPLACEMENT AT SLL	31,135 MT
SERVICE SPEED	16 KNOTS



CARGO ZONE AREAS, CENTROIDS, HEIGHTS

	FRS.	AREA SQ. M	VCG TO DECK M	LCG M	TCG M	CLEAR HT M
SPAR DECK						
ZONE 1	52 - 63½	349	21.10	45.57	0.00	4.115*
ZONE 2	66½ - 90½	521	21.10	62.21	0.00	4.115*
ZONE 3	82½ - 116½	504	21.10	81.92	-0.36	4.115*
ZONE 4	116½ - 143½	485	21.10	101.85	2.32	4.115*
ZONE 5	106 - 142	99	SLOPED	97.92	-10.14	4.115*
ZONE 6	143½ - 167½	521	21.10	123.79	0.00	4.115*
ZONE 7	167½ - 190	489	21.10	142.88	0.00	4.115*
TOTAL		2,968		95.53	-0.03	
UPPER DECK						
ZONE 1	0 - 22	320	16.20	7.38	0.00	4.115*
ZONE 2	22 - 49	144	SLOPED	25.45	-7.80	4.115*
ZONE 3	49 - 89	802	16.05	53.25	0.00	4.115
ZONE 4	89 - 125	592	16.05	83.37	0.05	4.115
ZONE 5	125 - 161	594	16.05	113.52	0.00	4.115
ZONE 6	161 - 207	813	16.05	146.28	0.02	4.115
TOTAL		3,265		87.23	-0.34	
EMBARKATION DECK						
ZONE 1	-10 - 5	186	10.60	-0.60	0.95	6.20
ZONE 2	6 - 49 P	252	SLOPED	19.23	-8.12	6.10
ZONE 3	6 - 40 C	230	SLOPED	19.23	-0.31	5.80
ZONE 4	6 - 48 S	230	SLOPED	19.23	7.45	6.10
ZONE 5	49 - 89	770	8.75	53.00	-0.10	6.10
ZONE 6	89 - 125	700	8.75	83.97	0.30	6.10
ZONE 7	125 - 161	700	8.75	113.52	0.00	6.10
ZONE 8	161 - 205	652	8.75	142.56	0.06	6.10
TOTAL		3,720		76.76	0.09	
HOLD DECK						
ZONE 1	49 - 89 S	500	1.80	52.77	3.70	6.10
ZONE 2	49 - 89 P	238	SLOPED	53.18	-7.86	5.70
ZONE 3	89 - 125	683	1.80	83.97	0.00	6.10
ZONE 4	125 - 161	655	1.80	112.36	0.00	6.10
ZONE 5	161 - 190	302	1.80	135.15	0.00	6.10
TOTAL		2,378		89.23	0.00	
GRAND TOTAL		12,331		86.32	-0.28	

* HEIGHT RESTRICTION ON ACCESS RAMP

TANK CAPACITIES

FUEL OIL

FRAME	TANK	CAPACITY AT 98% cu.m	CAPACITY AT 98% cu.ft.	DENSITY t/m3	LCG m	VCG m	TCG m	MAX. FREE SURF. tm
190-207	DIESEL OIL DOUBLE BOTTOM NO. 1 CN	371.86	13157	0.87	167.64	2.80	0.00	921
160-190	FUEL OIL DOUBLE BOTTOM NO. 2 PORT	280.57	9908	0.97	137.53	1.00	-3.75	1493
160-190	FUEL OIL DOUBLE BOTTOM NO. 2 STB.	280.57	9908	0.97	137.53	1.00	3.75	1493
130-160	FUEL OIL DOUBLE BOTTOM NO. 3 CN	329.10	11622	0.97	114.71	0.90	-0.33	1387
103-130	FUEL OIL DOUBLE BOTTOM NO. 4 CN	297.60	10510	0.97	91.31	0.90	0.36	1309
76-103	FUEL OIL DOUBLE BOTTOM NO. 5 CN	298.47	10540	0.97	69.18	0.90	0.35	1337
47-76	FUEL OIL DOUBLE BOTTOM NO. 6 CN	303.29	10711	0.97	46.71	0.89	0.00	775
36-40	FUEL OIL DAY TANK NO.1 PORT	24.34	860	0.97	27.42	6.46	-8.71	178
32-36	FUEL OIL DAY TANK NO.2 PORT	35.94	1269	0.97	24.27	6.68	-8.65	176
28-32	M.E. FUEL OIL SETTLING TANK PORT	46.97	1659	0.97	21.09	6.91	-8.58	172
24-27	DIESEL OIL SETTLING TANK PORT	37.92	1339	0.87	17.56	7.02	-8.43	111
24-27	DIESEL OIL DAY TANK PORT	22.35	789	0.87	17.50	8.60	-9.05	117
25-26	BOILER DIESEL OIL TANK STB	5.96	210	0.87	17.72	22.60	9.51	6
33-41	FUEL OIL OVERFLOW D.B. PORT	18.43	651	0.97	26.77	0.88	-2.75	10
39-41	FUEL OIL SLUDGE TANK D.B. PORT	4.93	174	0.97	29.22	1.06	-5.24	8
15-18	FORK LIFT DIESEL OIL TANK STB.	27.13	958	0.84	10.35	15.60	12.12	2
FUEL OIL TOTAL		2385.42	84241		100.10	1.82	-0.44	9490

LUBRICATING OIL

FRAME	TANK	CAPACITY AT 98% cu.m	CAPACITY AT 98% cu.ft.	DENSITY t/m3	LCG m	VCG m	TCG m	MAX. FREE SURF. tm
30-45	LUB. OIL DAY TANK D.B. CN	21.31	753	0.92	27.23	1.07	0.00	6
37-39	LUB. OIL SLUDGE TANK D.B. PORT	2.73	96	0.92	27.82	1.08	-4.65	2
25-37	M.E. DIRTY OIL DOUBLE BOTTOM CN	19.06	673	0.92	21.04	0.82	0.00	6
15-19	AUX. E. DIRTY OIL DOUBLE BOTTOM CN	5.50	194	0.92	11.11	0.65	0.20	3
17-19	STERN TUBE LUB. OIL D.B. PORT	1.60	57	0.92	11.62	1.17	0.59	0
43-45	M.E. LUB. OIL STORAGE TANK PORT	26.23	926	0.92	32.31	6.74	-9.69	87
41-43	CYL. LUB. OIL STORAGE TANK PORT	21.85	772	0.92	30.71	7.08	-9.78	87
15-18	C.P.P. LUB. OIL STORAGE TANK STB.	4.24	150	0.92	10.35	6.75	4.02	0
15-18	AUX. E. LUB. OIL DAY TANK STB.	28.29	999	0.92	10.35	8.53	5.98	7
LUBRICATING OIL TOTAL		130.81	4620		22.87	4.93	-2.22	200

FRESH WATER

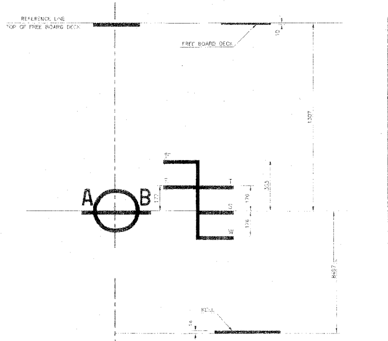
FRAME	TANK	CAPACITY AT 100% cu.m	CAPACITY AT 100% cu.ft.	DENSITY t/m3	LCG m	VCG m	TCG m	MAX. FREE SURF. tm
49-58	DRINKING WATER TANK NO. 1 PORT	104.44	3689	1.00	39.86	3.84	-9.77	28
49-58	DRINKING WATER TANK NO. 2 PORT	123.58	4364	1.00	39.85	3.88	-5.59	49
15-15	DISTILLED WATER TANK STB.	40.39	1426	1.00	10.38	8.47	10.45	18
FRESH WATER TOTAL		268.40	9479		35.45	4.55	-4.94	95

BALLAST WATER

FRAME	TANK	CAPACITY AT 100% cu.m	CAPACITY AT 100% cu.ft.	DENSITY t/m3	LCG m	VCG m	TCG m	MAX. FREE SURF. tm
207-FORE	FORE PEAK	439.60	15524	1.025	169.93	7.30	0.00	868
131-160	BALLAST WTR. DBL. BOTTOM NO. 3 PORT	345.47	12200	1.025	114.92	0.94	-7.87	1516
130-160	BALLAST WTR. DBL. BOTTOM NO. 3 STB.	359.02	12679	1.025	114.50	0.94	7.88	1587
103-130	BALLAST WTR. DBL. BOTTOM NO. 4 PORT	358.00	12643	1.025	91.78	0.92	-8.29	1606
104-130	BALLAST WTR. DBL. BOTTOM NO. 4 STB.	345.88	12215	1.025	92.18	0.92	8.27	1589
76-103	BALLAST WTR. DBL. BOTTOM NO. 5 PORT	359.02	12679	1.025	69.59	0.92	8.26	1640
77-103	BALLAST WTR. DBL. BOTTOM NO. 5 STB.	346.00	12219	1.025	70.02	0.92	8.27	1589
47-76	BALLAST WTR. DBL. BOTTOM NO. 6 PORT	347.46	12271	1.025	47.37	0.95	-7.98	1505
47-76	BALLAST WTR. DBL. BOTTOM NO. 6 STB.	346.25	12228	1.025	47.46	0.95	7.97	1558
190-202	BALLAST WATER TANK NO. 1 PORT	186.84	6598	1.025	157.06	6.88	-3.62	251
190-202	BALLAST WATER TANK NO. 1 STB.	186.84	6598	1.025	157.06	6.88	3.62	251
175-190	BALLAST WATER TANK NO. 2 PORT	329.55	11638	1.025	145.47	6.00	-7.82	254
175-190	BALLAST WATER TANK NO. 2 STB.	366.26	12934	1.025	146.01	6.10	7.59	359
157-175	BALLAST WATER TANK NO. 3 PORT	352.77	12458	1.025	132.81	5.93	10.72	119
157-175	BALLAST WATER TANK NO. 3 STB.	352.77	12458	1.025	132.81	5.93	10.72	119
121-157	BALLAST WATER TANK NO. 4 PORT	410.27	14489	1.025	111.03	5.72	-12.29	21
121-157	BALLAST WATER TANK NO. 4 STB.	410.27	14489	1.025	111.03	5.72	12.29	21
85-121	BALLAST WTR. TANK (BAL) NO. 5 PORT	381.46	13471	1.025	80.72	5.69	-12.42	12
85-121	BALLAST WTR. TANK (BAL) NO. 5 STB.	382.48	13507	1.025	80.69	5.70	12.42	12
49-85	BALLAST WATER TANK NO. 6 PORT	339.15	11977	1.025	52.12	5.60	-12.46	11
49-85	BALLAST WATER TANK NO. 6 STB.	364.05	12856	1.025	51.70	5.62	12.41	13
2-15	BALLAST WATER TANK AFT PORT	246.09	8687	1.025	5.43	8.55	-8.01	408
2-15	BALLAST WATER TANK AFT STB	253.59	8952	1.025	5.49	8.60	8.92	431
2-15	AFTER PEAK	149.10	5265	1.025	6.34	5.70	0.00	433
BALLAST WATER TOTAL		7958.04	281036		94.12	4.43	0.06	15235

MISCELLANEOUS

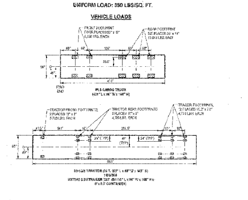
FRAME	TANK	CAPACITY AT 98% cu.m	CAPACITY AT 98% cu.ft.	DENSITY t/m3	LCG m	VCG m	TCG m	MAX. FREE SURF. tm
41-47	OILY DOUBLE BOTTOM	43.89	1550	0.90	32.54	0.91	-5.19	310
40-47	PURIFIED FRESH WATER DOUBLE BOTTOM	49.71	1755	1.00	32.25	0.92	5.08	349
39-41	DRAIN MAIN ENGINE STB.	2.18	77	1.00	29.19	1.95	9.16	0
38-39	DRAIN TANK	0.87	31	1.00	27.98	2.06	9.18	0
36-40	SEWAGE DOUBLE BOTTOM TANK	10.04	355	1.00	27.41	0.98	3.82	0
37-37	DRAIN MAIN ENGINE PORT	7.64	270	1.00	25.63	2.20	-7.10	0
33-36	MAIN ENGINE & BOILER DRAIN	6.79	240	1.00	24.82	0.93	2.77	170
TOTAL		121.12	4278		31.03	1.03	0.42	0



DESIGN LOADS FOR SPAR DECK FRS. 52-190

UNIFORM LOAD: 350 LBS/SQ. FT.

VEHICLE LOADS

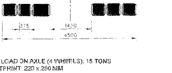


PERMISSIBLE DECK LOADINGS

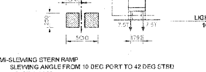
HOMOGENOUS CARGO, TONS/SQ. M:

SPAR DECK	1.68
UPPER DECK	3
EMBARKATION DECK	
GENERAL	3
STERN DOOR TO FR 13	4
STBD SIDE FR 13-49	4
HOLD DECK	5
RAMPS	3

FORK LIFTS (EXCEPT SPAR DECK)
MAXIMUM LOAD ON DRIVE AXLE (6 WHEELS): 65 TONS
TIRE FOOTPRINT: 375 x 410 MM
TOTAL TIRE FOOTPRINT, 3 WHEELS: 1400 x 410 MM



TRAILERS
MAXIMUM LOAD ON AXLE (4 WHEELS): 15 TONS
TIRE FOOTPRINT: 220 x 250 MM
TOTAL TIRE FOOTPRINT, 2 WHEELS: 500 x 250 MM

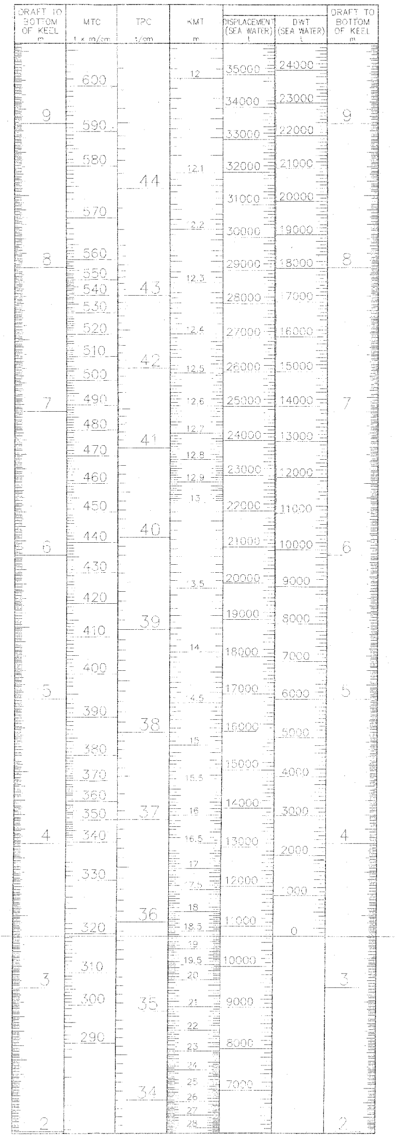


LIGHTSHIP WEIGHT
10,750.8 TONS

SEMI-SLEWING STERN RAMP
SLEWING ANGLE FROM 10 DEG PORT TO 42 DEG STBD
LENGTH: 28 M
WIDTH: 9.45 M (OUTSIDE); 7.20 M (DRIVEWAY)
MAX LOAD: 292 TONS PLUS 28 TONS FOR TRACTOR

STERN DOOR
WIDTH: 12.70 M
HEIGHT: 6.20 M

FREE BOARD MARKINGS	FREEBOARD TO REFERENCE LINE mm	DRAFT TO BOTTOM OF KEEL mm	DISPLACEMENT t	DEADWEIGHT t
TF	984	8620	31,911	21,160
F	1,130	8644	31,135	20,384
T	1,131	8842	31,911	21,160
S	1,307	8467	31,135	20,384
W	1,483	8291	30362	19,611



REVISIONS

REV	LOC	ITEM	DESCRIPTION	BY	DATE
1	H13	1	LOWERED AFT MAST 6'-6".	MJM	7/15/98
2			REVISED PER INCLINING TEST RESULT.	MJM	9/17/98

NO.	DRAWING TITLE	DWG NUMBER

REFERENCE DRAWINGS

APPROVALS

BY:	SUBMIT DATE	APPROVED DATE	RESUBMIT DATE	RESUBMIT DATE	APPROVED DATE
OWNER					
MARAD					
U.S.C.G.					
ABS					

MARINE DESIGN AND OPERATIONS, INC.
225 First Avenue East
Roselle, New Jersey 07203

CLIENT:
KEYSTONE SHIPPING CO.
General Agent for
U.S. D.O.T. MARITIME ADMINISTRATION
Central Region, New Orleans

SHIP:
M/V CAPE VICTORY
M/V CAPE VINCENT

TITLE:
CAPACITY PLAN

SCALE: 1:250 SHEET: 1 OF 1

DRAWN BY:	MMalloz	APPROVED BY:
DATE:	30 May 97	
CHECKED BY:	MDL	
DATE:	2 Jun 97	DATE:
CAD File Name:	665cap.dwg	

DWG NO: 665-S91-0-2 REV: 2