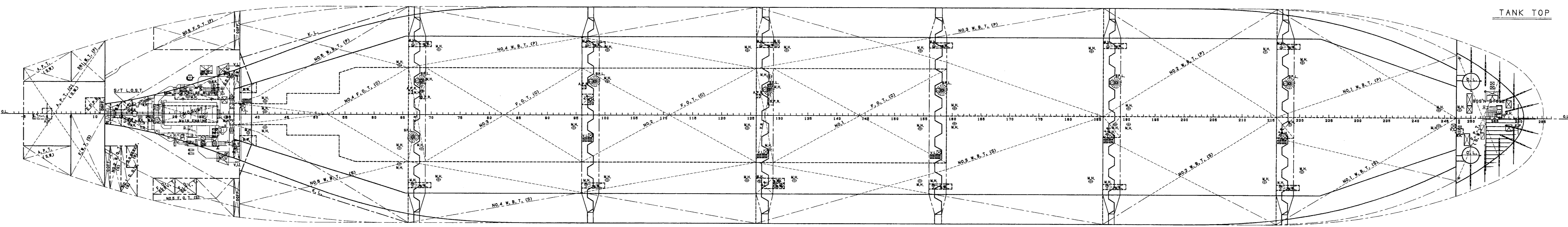
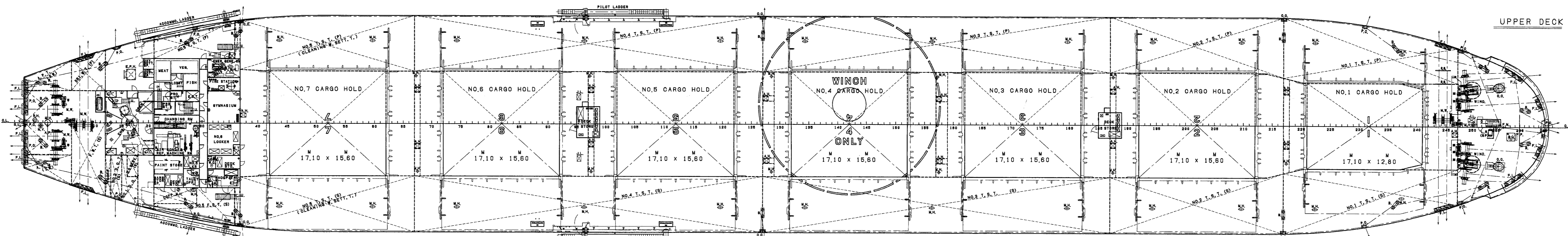
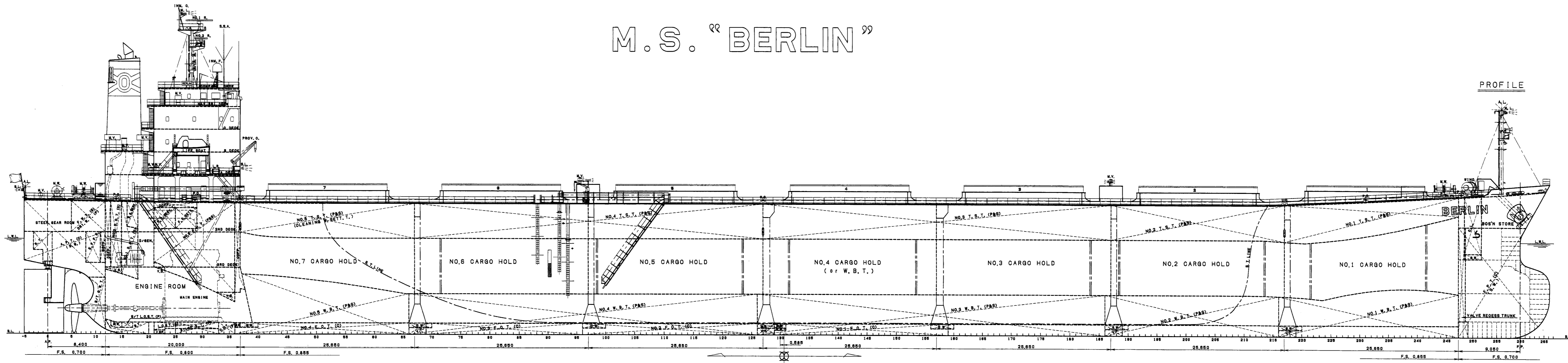
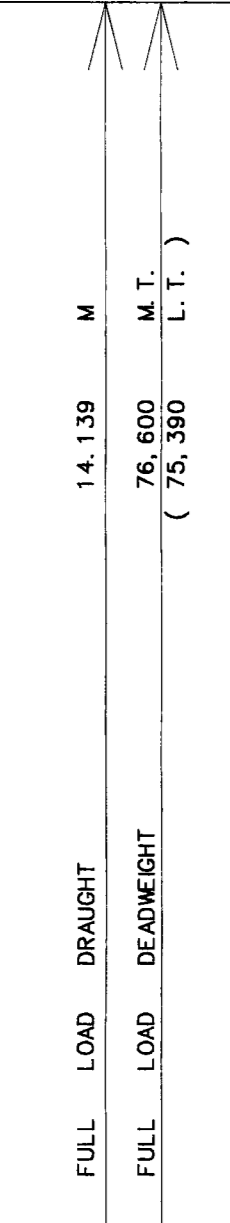


CAPACITY PLAN WITH DEADWEIGHT SCALE

M.S. "BERLIN"



T.P.C. (M.T.)	DISPLACEMENT (M.T.)	DRAUGHT (M)	DEAD WEIGHT (M.T.)	M.T.C. (T-M)
90,000	14.0	80,000	1070.0	
85,000	13.0	75,000	1060.0	
80,000	12.0	70,000	1050.0	
75,000	11.0	65,000	1040.0	
70,000	10.0	60,000	1030.0	
65,000	9.0	55,000	1020.0	
60,000	8.0	50,000	1010.0	
55,000	7.0	45,000	1000.0	
50,000	6.0	40,000	990.0	
45,000	5.0	35,000	980.0	
40,000	4.0	30,000	970.0	
35,000	3.0	25,000	960.0	
30,000	2.0	20,000	950.0	
25,000	1.0	15,000	940.0	
20,000	0.0	10,000	930.0	
15,000		5,000	920.0	
10,000		0	910.0	
5,000			900.0	
0			890.0	
			880.0	
			870.0	
			860.0	
			850.0	
			840.0	
			830.0	
			820.0	
			810.0	
			800.0	
			790.0	
			780.0	
			770.0	
			760.0	
			750.0	
			740.0	
			730.0	
			720.0	
			710.0	
			700.0	
			690.0	
			680.0	
			670.0	
			660.0	
			650.0	



FREEBOARD TABLE

LOAD LINE	MARK	FREEBOARD (m)	DRAUGHT (m)	DEADWEIGHT (M.T.)	DEADWEIGHT (L.T.)
TROPICAL FRESH WATER	TF	4.784	14.759	75,516	77,276
FRESH WATER	F	5.078	14.465	76,603	75,393
TROPICAL	T	5.110	14.433	76,560	77,320
SUMMER	S	5.404	14.139	76,600	75,393
WINTER	W	5.698	13.845	74,649	73,470
WINTER NORTH ATLANTIC	WNA	5.698	13.845	74,649	73,470

PRINCIPAL PARTICULARS

LENGTH (O.A.)	224.94 m
LENGTH (S.P.)	217.00 m
BREADTH (M.L.D.)	32.26 m
DEPTH (M.L.D.)	19.50 m
DRAUGHT (EXT.)	14.139 m
DEADWEIGHT (AT ASSIGNED DRAUGHT)	76,600 M.T.
HOLD CAPACITY	90,740.35 M ³
GROSS TONNAGE (I.C.T.M.)	39,737
NET TONNAGE (I.C.T.M.)	25,764
MAIN ENGINE	MITSUBISHI MAN B&W 6S80W (M/E 1) 1 x 1
MAX. OUTPUT	10,320 kW x 82.0 RPM
NOR. OUTPUT	6,770 kW x 84.0 RPM
SPEED	(ON DESIGNED LOADED DRAUGHT) 15.28 knots
TRIAL MAX.	17.168 knots
CLASSIFICATION	NIPPON KAIJI KYOKAI (NK)
CLASSIFICATION CHARACTER	NS*BULK CARRIER - STRENGTHENED FOR HEAVY CARGOES, NS*W 2, 4 & 6 HOLDS MAY BE EMPTY, (CEP) 2/3 WMS*
INSTALLATIONS CHARACTER	1. SH, MPP, LSA, ROP, AFS, WD

COMPLEMENT

DECK PART	ENGINE PART	BUSINESS PART
CAPTAIN	1 CHIEF ENGINEER	1
CHIEF OFFICER	1 1ST ENGINEER	1
2ND OFFICER	1 2ND ENGINEER	1
3RD OFFICER	1 3RD ENGINEER	1
BOATSWAIN	1 NO. 1 OILER	1 CHIEF COOK
ABLE SEAMAN	3 OILER	2 MESS MAN
ORDINARY SEAMAN	3 WIPER	1
TOTAL NUMBER OF OFFICER	8 P.	
TOTAL NUMBER OF CREW	13 P.	
SPARE OFFICER (JUNIOR OFFICER CLASS)	1 P.	
CREW (RATING CREW CLASS)	1 P.	
PILOT (JUNIOR OFFICER CLASS)	1 P.	
GRAND TOTAL	24 P.	

* CARGO HOLD (GRAIN) EQUIVALENT USE : 1m³ = 35.315 CF.

NAME	POSITION	CAPACITY	WT	KG
	FRAME	m ³	C.F.	m
NO. 1 CARGO HOLD	HOLD 217-247	11,288.23	398,644	-86.13
	HATCH WAY 221-241		8,844	-84.84
	SUM	11,288.23	407,488	-85.10
NO. 2 CARGO HOLD	HOLD 187-217	13,013.29	459,564	-61.37
	HATCH WAY 192-212		371.20	13,109
	SUM	13,384.49	472,673	-61.36
NO. 3 CARGO HOLD	HOLD 157-187	12,926.76	456,479	-36.82
	HATCH WAY 162-182		371.20	13,109
	SUM	13,297.96	469,582	-36.81
NO. 4 CARGO HOLD	HOLD 127-157	12,955.56	457,526	-10.19
	HATCH WAY 132-152		371.20	13,109
	SUM	13,326.76	470,635	-10.18
NO. 5 CARGO HOLD	HOLD 97-127	13,053.49	460,278	15.60
	HATCH WAY 102-122		371.20	13,109
	SUM	13,424.69	473,387	15.57
NO. 6 CARGO HOLD	HOLD 67-97	13,020.49	459,819	41.22
	HATCH WAY 72-92		371.20	13,109
	SUM	13,391.69	472,928	41.23
NO. 7 CARGO HOLD	HOLD 37-67	12,025.90	424,895	66.51
	HATCH WAY 42-62		371.20	13,109
	SUM	12,397.10	437,804	66.53
TOTAL		99,740.35	3,204,498	

* WATER BALLAST TANK (100% FULL) S.G.: 1.025

NAME	POSITION	CAPACITY	WEIGHT	KG
	FRAME	m ³	MT	m
FORE PEAK TANK	C 247-F.E.	1,750.47	1,794.23	-103.70
NO. 1 W. B. T.	P 216-247	1,293.63	1,329.97	-84.95
	S 216-247	1,280.28	1,312.29	-85.08
NO. 2 W. B. T.	P 186-217	1,621.12	1,659.16	-60.45
	S 186-217	1,507.76	1,545.45	-60.55
NO. 3 W. B. T.	P 126-187	2,724.72	2,792.84	-23.44
	S 126-187	2,717.93	2,785.88	-23.51
NO. 4 W. B. T.	P 66-127	2,424.51	2,485.12	28.93
	S 66-127	2,424.51	2,485.12	28.93
NO. 5 W. B. T.	P 36-66	602.71	617.78	88.49
	S 36-66	602.71	617.78	88.49
NO. 6 T. S. T.	P 37-67	602.91	617.98	87.03
	S 37-67	602.91	617.98	87.03
AFT PEAK TANK	C A.E.-12	955.31	989.44	105.74
NO. 4 CARGO HOLD	C 127-157	13,390.89	13,664.16	-10.17
TOTAL		34,352.37	35,211.17	

* FUEL OIL TANK (100% FULL) S.G.: HEAVY OIL = 0.950, DIESEL OIL = 0.880

NAME	POSITION	CAPACITY	WEIGHT	KG
	FRAME	m ³	MT	m
NO. 1 FUEL OIL T.	C 129-159	600.84	570.80	-11.29
NO. 2 FUEL OIL T.	C 96-126	594.16	564.45	16.78
NO. 3 FUEL OIL T.	C 69-96	540.09	513.09	41.27
NO. 4 FUEL OIL T.	C 36-56	354.17	338.48	64.26
NO. 5 FUEL OIL T.	P 21-36	523.47	497.30	86.04
	S 21-36	483.92	449.72	85.67
SUM		3,076.65	2,922.82	
NO. 1 DIE. OIL T.	S 15-18	133.45	112.44	98.53
NO. 2 DIE. OIL T.	S 13-15	88.80	78.14	98.48
SUM		222.25	190.58	
TOTAL		3,298.90	3,113.40	

* LUBRICATING OIL TANK (100% FULL) S.G.: 0.920

NAME	POSITION	CAPACITY	WEIGHT	KG
	FRAME	m ³	MT	m
LUB. OIL SUMP T.	C 21-33	23.04	21.20	85.33
S/T L. O. SUMP T.	P 15-17	2.31	2.13	96.88
CYL. OIL STOR. T.	P 15-18	59.76	54.98	96.45
M/E L. O. STOR. T.	P 13-15	26.25	24.15	98.48

* FRESH WATER TANK (100% FULL) S.G.: 1.000

NAME	POSITION	CAPACITY	WEIGHT	KG
	FRAME	m ³	MT	m
DRINK WATER T.	P 5-12	117.38	117.38	102.42
FRESH WATER T.	S 5-12	229.86	229.86	192.49
TOTAL		347.24	347.24	

* OTHER TANK (100% FULL)

NAME	POSITION	CAPACITY	KG
	FRAME	m ³	m
CLEAN DRAIN T.	P 33-36	10.42	82.06
BILGE SLUDGE T.	P 25-33	15.41	85.91
BILGE TANK	C 12-20	25.63	95.20
S/T COOL. W. T.	C A.E.-12	15.85	100.88

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JAN. 11, 2009
SHIP DESIGN DIVISION SERIAL NO. B-04

FINISHED PLAN

CON-FERRED	SHIP DESIGN GROUP	
	BASIC DESIGN TEAM	
APPROVED	Y. TAKAKAWA	
CHECKED	1. K.	
CHECKED	Y. K.	
DRAWN	S. K.	
SHIP NO.	S-K002	
CLASS	NK	
SCALE	****	
DWG. NO.	C-0300	

M.S. "BERLIN"
CAPACITY PLAN WITH DEADWEIGHT SCALE