SSM

HORTEN CLASS BULK CARRIERS

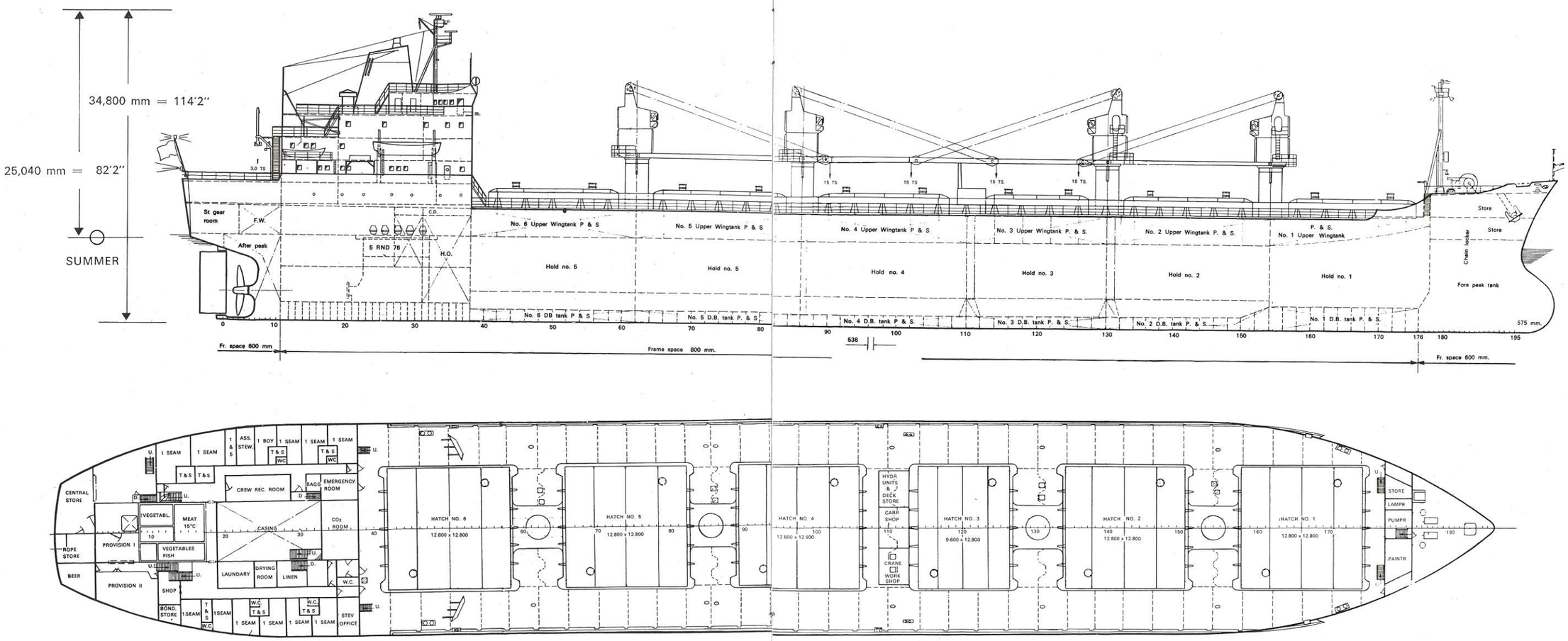
SCOTTISH SHIP MANAGEMENT LTD.
MANAGERS FOR
LYLE SHIPPING CO. LTD. & H. HOGARTH AND SONS LTD.
GLASGOW

CABLES: MANAGEMENT GLASGOW, SCOTTISH, SYDNEY.
TELEX: 778133 (GLASGOW) AA 27398 (SYDNEY)
230 996522 (NEW YORK)

GENERAL PARTICULARS
BARON MACLAY • CAPE LEEUWIN

DIMENSIONS

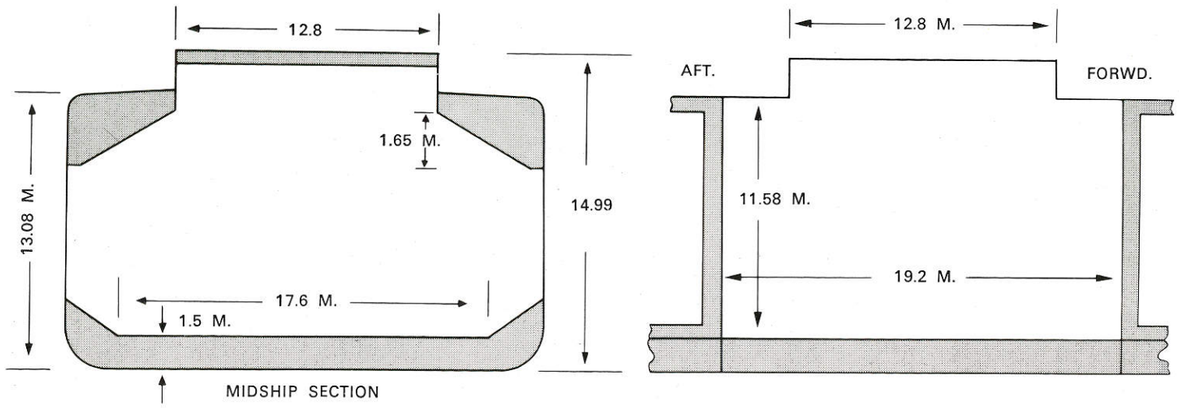
LENGTH OVER ALL	522'-7½"	= 159,293 M
LENGTH BETW. PP.	495'-0"	= 150,875 ,,
BREADTH MOULDED	75'-0"	= 22,860 ,,
DEPTH MOULDED	42'-11"	= 13,080 M
DRAFT ON SUMMER FR.B.	32'-0½"	= 9,765 M
DW. ON THIS DRAFT	21950 TONS	
GROSS TONNAGE	13436,59	
NET TONNAGE	7820,27	



	DRAUGHT INM.	FREEB INM.	DISP TS.	DW TS.
TF. FRESHWATER TROPICAL	10,186	2,938	27954	22550
F. FRESHWATER	9,983	3,141	27354	21950
T. TROPICAL	9,968	3,156	27954	22550
S. SUMMER	9,765	3,359	27354	21950
W. WINTER	9,562	3,562	26704	21300

BUILDERS:	A/S Horten Verft, Horten Norway.
TYPE:	Fast Geared Single Screw, Single Deck Bulk Carrier.
CLASS:	Lloyds = 100 A1 strengthened for heavy cargoes, Nos. 2 and 5 holds may be empty, No. 3 hold floodable.
MACHINERY:	One Horten Sulzer Diesel Engine, type 5 RND 76, 5 cylinder, 760 mm diameter. 10000 B.H.P. at 122 R.P.M.
CONSUMPTION:	32 tonnes with 2 tonnes D.O. at sea, in port 2.0 tonnes D.O. (idle) per day, 2.5 tonnes (working).
SPEED:	15 KTS.
CARGO GEAR:	4 x 15 ton electrically driven Deck Cranes manufactured by Clarke Chapman with full grabbing facility using four four rope Westwood grabs.

HOLDS



CAPACITY OF CARGO SPACES				
COMPARTMENT	GRAIN		BALES	
	CUB. M.	CUB. FT.	CUB. M.	CUB. FT.
HOLD NO. 1	3531	124713	3354	118445
„ „ 2	4821	170266	4580	161753
„ „ 3	4022	142045	3701	130681
„ „ 4	4943	174555	4695	165827
„ „ 5	4916	173600	4670	164920
HOLD NO. 6	4915	173572	4713	166438
TOTAL	27148	958751	25713	908064

HEIGHT OF HATCH COAMINGS ABOVE B.L. AND SUMMER	
BL	SUMMER
49' 02	16.98'
14.99 M.	5.225 M.

TANK TOP AREAS	SQ. M.
HOLD No. 1	220
HOLD No. 2	257
HOLD No. 3	234
HOLD No. 4	324
HOLD No. 5	324
HOLD No. 6	330

Large hatchways and clear uncluttered holds make these vessels particularly suitable for grab discharge and allow the easy use of bulldozers for fast trimming. Short ends and minimal top tank overhang ensure that the very best stow is achieved when loading grain.

The large area of clear and uncluttered tanktop makes the stowage of timber products, steel products, pipe, etc straight forward and ensures that the trimming and hold cleaning operations are made as fast and easy as possible.

Tanktops and boundary areas are specially strengthened in order to allow the carriage of deadweight cargos with holds two and five empty.

TANKS

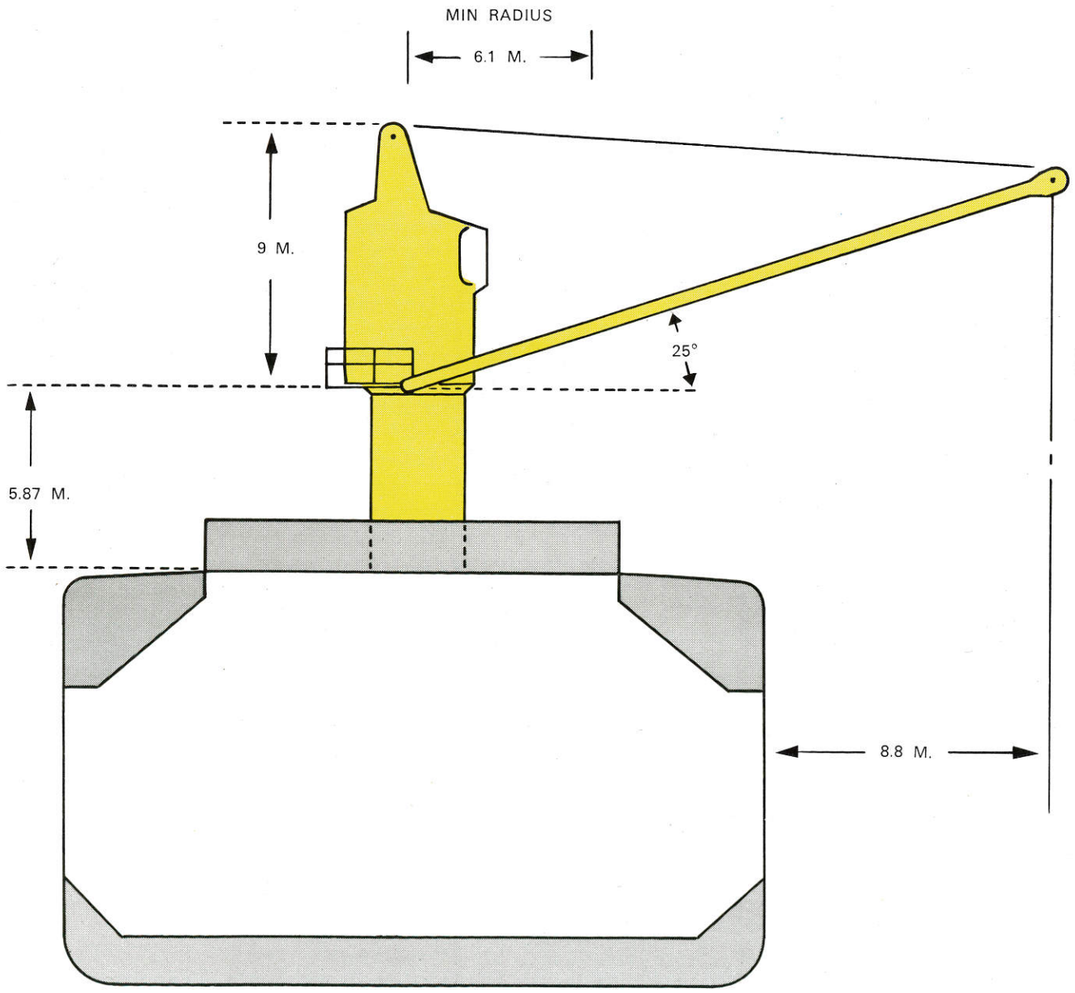
Compartment	Frame no.	Gross capacity		2% allowance for expansion				Centre of Gravity from Lpp/2 in m.	Centre of Gravity above Baseline in m.
		Cb. m.	Cb. feet	Tons of S.W. at 1.025 gr./cm³	Tons of F.W. at 1.000 gr./cm³	Tons of fuel oil at 0.9 gr./cm³	Tons of fuel oil at 0.95 gr./cm³		
Feedwater	11–18	32,3	1143		31,2			−65,15	1,09
Water ballast:									
Forepeak	176–st	7955	28092	786,5				69,19	5,18
Up. wingtk. no. 1 P	154–178	1135	4008	112,2				52,43	12,11
„ 1 SB.	154–178	113,5	4008	112,2				52,43	12,11
DB-Up. wingtk. no. 2 P	130–154	463,6	16374	458,3				35,70	6,20
„ 2 SB	130–154	463,6	16374	458,3				35,70	6.20
DB. Tank no. 2 P	130–154	123,9	4379	122,4				37,00	0,86
„ 2 SB	130–154	123,9	4379	122,4				37,00	0,86
DB. Up. wingtk. no. 3 P	110–130	487,8	17224	482,3				18,23	5,11
„ „ 3 SB.	110–130	487,8	17224	482,3				18,23	5,11
„ „ 4 P	86–110	556,8	19660	550,5				1,01	5,25
„ „ 4 SB.	86–110	556,8	19660	550,5				1,01	5,25
„ „ 5 P	62– 86	554,5	19579	548,2				−18,03	5,26
„ „ 5 SB	62– 86	554,5	19579	548,2				−18,03	5,26
„ „ 6 P	38– 62	409,1	14446	404,4				−36,82	6,90
„ „ 6 SB	38– 62	409,1	14446	404,4				−36,82	6,90
After peak	0– 11	112,2	3962	110,2				−70,79	8,41
Total WB. excl. hold 3.		6326,1	223394	6253,3					
Hold no. 3	110–130	3976,0	140396	3931,5				19,11	7,48
Total WB.		10302,1	363790	10184,8					
Fuel oil:									
DB. Tank No. 1 P+SB	154–176	812,8	28704			705,0	744,8	53,68	1,60
Wingtank P+SB	31– 38	446,6	15772			387,3	409,2	−49,62	7,94
H. O. Serv. Tank P	27– 31	80,7	2851			70,0	73,9	÷54,10	9,53
H. O. Settl. Tank SB.	27– 31	80,7	2851			70,0	73,9	÷54,10	9,53
Total fuel oil		1420,8	50170			1232,3	1301,8		
Diesel oil:									
D.O. in DB. P	19– 34	56,7	2007			49,2	52,0	÷54,69	1,14
D.O. in DB. SB	24– 34	46,8	1655			40,6	49,2	÷53,57	1,12
D.O. Serv. Tank P	23– 27	33,0	1265			28,6	30,3	÷57,31	11,18
Total diesel oil		136,5	4927			118,4	131,5		
Lubricating oil:									
Lubr. oil Tank	19– 30	19,5	691			16,9	17,8	÷58,48	1,40
Lubr. Spare Oil	23– 34	19,5	691			16,9	17,8	÷53,79	1,40
Total lubricating oil		39,0	1382			33,8	35,6		
Fresh water:									
Tank at Peakdeck SB	3– 11	62,7	2217		60,5			÷70,72	11,92
„ „ „ P	3– 11	58,3	2060		56,4			÷70,82	11,93
Total fresh water		121,0	4277		116,9				

CARGO GEAR

Horten class vessels are fitted with four fifteen ton electrically operated deck cranes, each of which is capable of continuous cargo operation using either hook or grab. Due to the lower shock loadings experienced under hook operations these cranes can be up-rated to 18.5 tonns when the hook is in use.

All the vessel's cargo handling equipment complies with current International Legislation and with the specific requirements of the Australian Department of Navigation, the American National Cargo Bureau and the British Department of Trade.

MAXIMUM RADIUS	20.0 M
MINIMUM RADIUS	6.1 M
HOIST SPEED	30.5 M/MIN.
LUFF MOTION	27.5 M/MIN.
SLEW SPEED	1. R.P.M.



BULKHANDLING

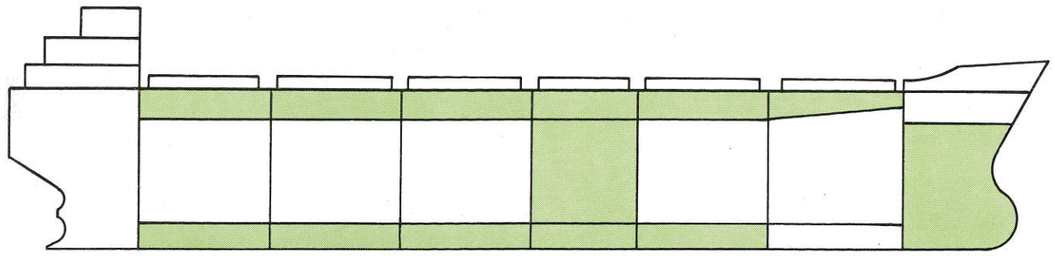
By virtue of the fact that they carry their own grabs, Horten class vessels are effectively independent of shore facilities.

Westwood grabs as fitted on the Horten class are of straight forward four rope operation. The provision of spill plates allows the grabs cubic capacity to be altered to suit various densities of cargo, thus allowing continuous operation of the gear with an even load spread. Maximum cubic and minimum cubics are 6.58/5.04m³ with a tare weight of 4.98 tonnes.

Grabs of this type have been successfully used for the full range of cargoes from grain to ore.

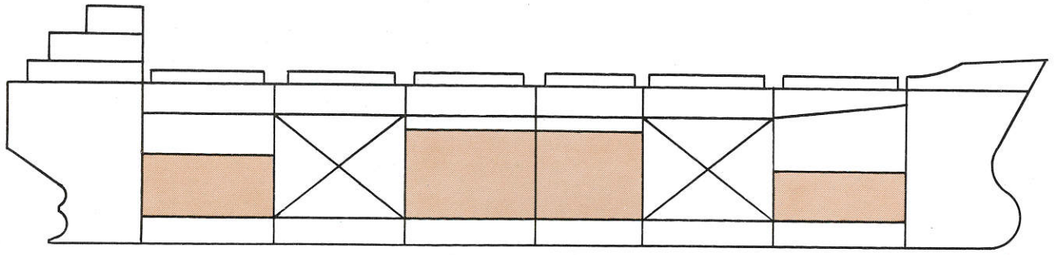
STOWAGE...

ballast



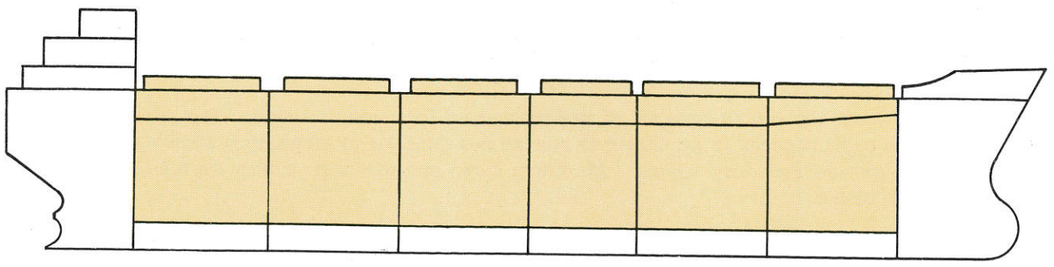
DRAUGHT 20.1 FT.

ore 15 cuft/ton



CARGO 20251
DRAUGHT 32.01 FT.

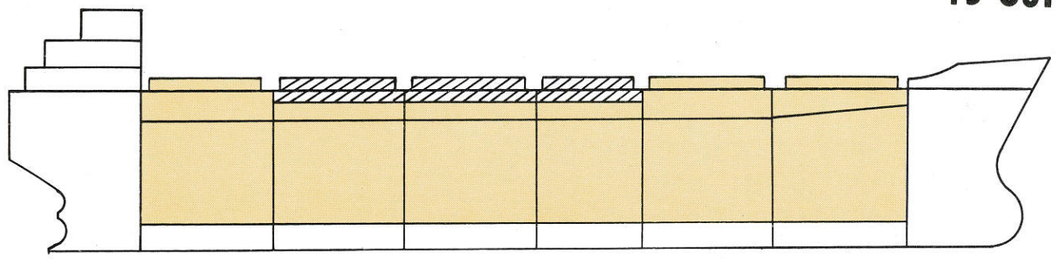
grain
55 cuft/ton



CARGO 17431
DRAUGHT 27.79 FT.
ALL HOLDS FULL.

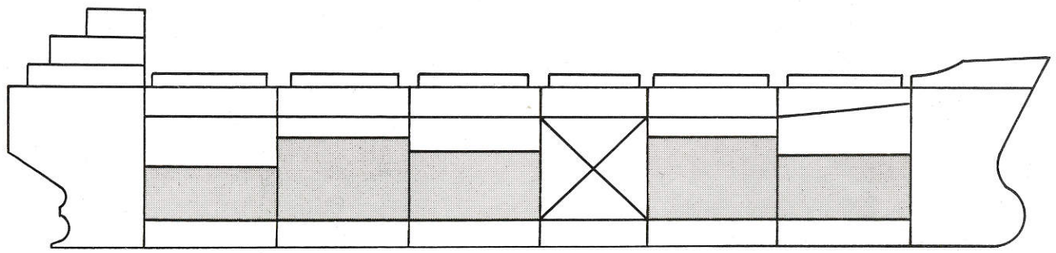
WITH FLEXIBILITY

grain
45 cuft/ton



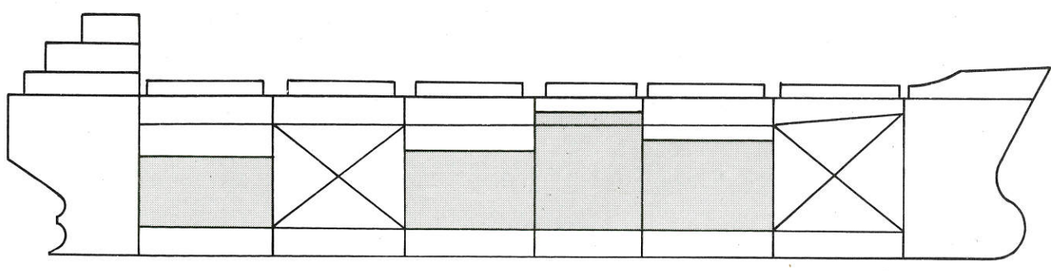
CARGO 20251
DRAUGHT 30.85 FT.

zinc 18 cuft/ton



CARGO 17548
DRAUGHT 27' 03"

sugar
12·8 cuft/ton



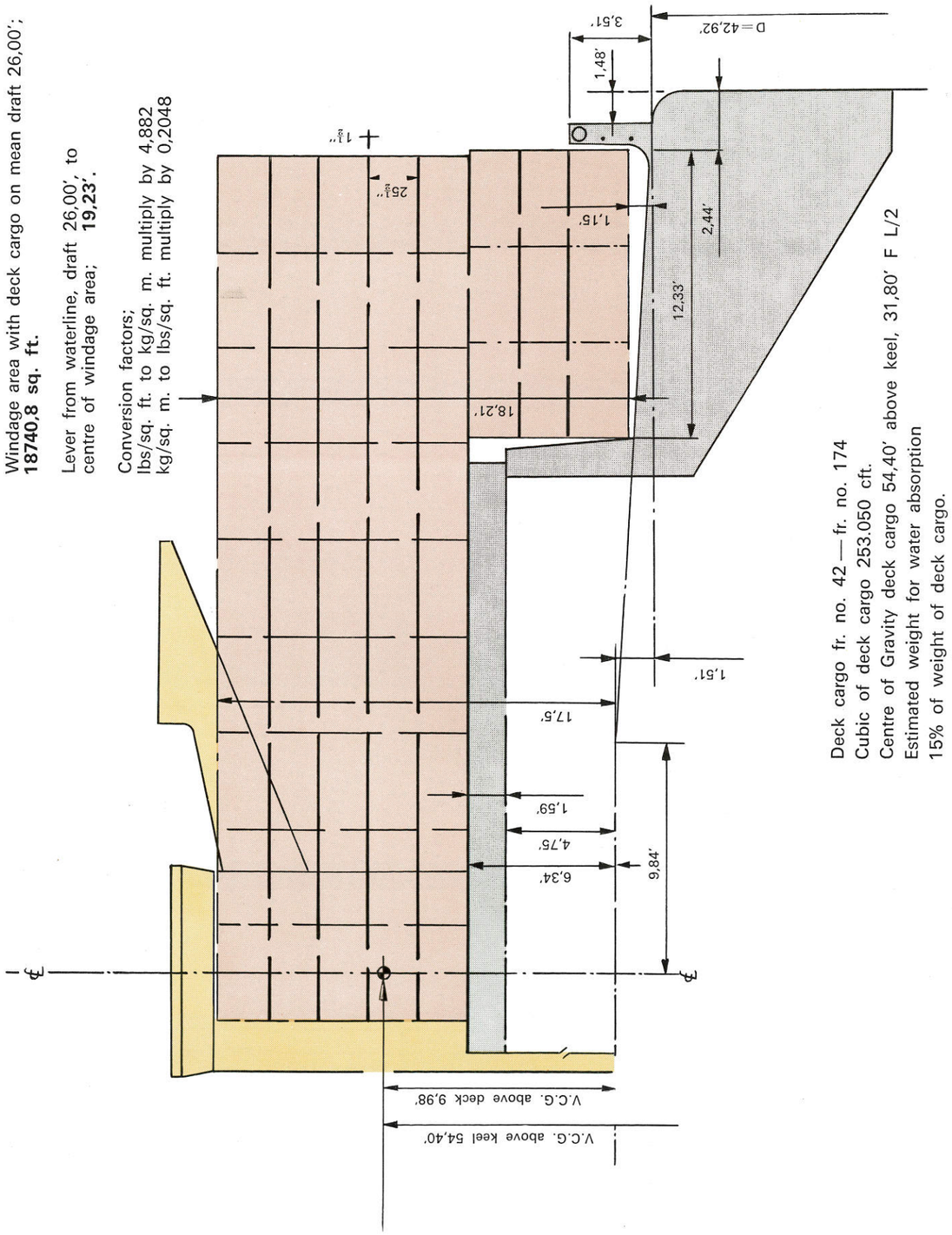
CARGO. 12000 TONS.

PACKAGED LUMBER

Windage area with deck cargo on mean draft 26,00'; **18740,8 sq. ft.**

Lever from waterline, draft 26,00', to centre of windage area; **19,23'.**

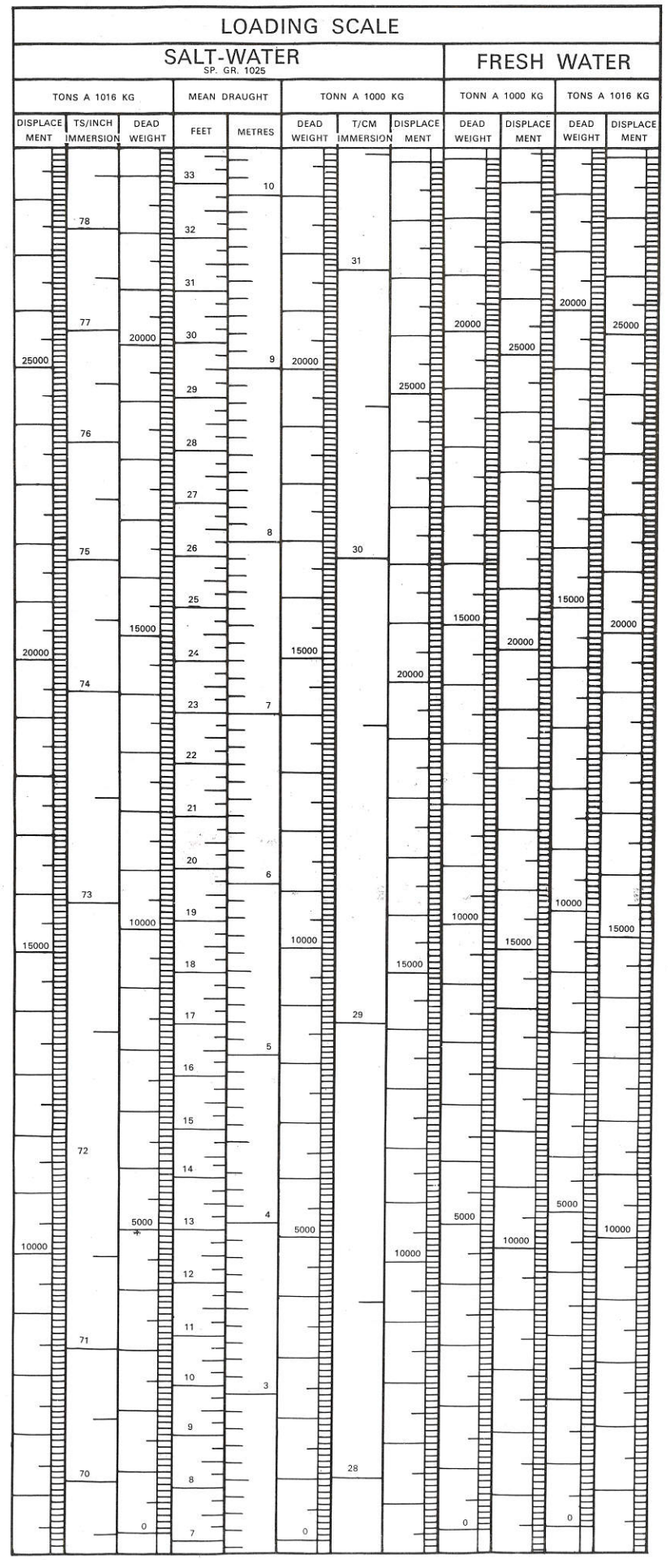
Conversion factors;
lbs/sq. ft. to kg/sq. m. multiply by 4,882
kg/sq. m. to lbs/sq. ft. multiply by 0,2048



Deck cargo fr. no. 42 — fr. no. 174
Cubic of deck cargo 253.050 cft.
Centre of Gravity deck cargo 54,40' above keel, 31,80' F L/2
Estimated weight for water absorption
15% of weight of deck cargo.

DEADWEIGHT

light ship 5404 constant 150



EQUIPMENT

NAVIGATIONAL:	Radar (Main) Decca R.M. 1226 (Aux) Decca R.M. 926C R.D.F. Plath Visual Echo Sounder I.T.T. Gyro Compass S.G. Brown Auto Pilot S.G. Brown Communications I.T.T. LMR 5000 I.T.T. ST. 715C Magnavox Satellite Navigator. Equipment complies fully with all U.S.C.G. requirements, present and intended.
HATCH COVERS:	Hydraulically operated Velle Type
HOLD AND CRANE ACCESS ARRANGEMENTS:	Comply fully with Australian and other international regulations.
BUNKERING ARRANGEMENTS:	Comply fully with U.S.G.G. requirements.
AUXILIARY MACHINERY:	Three diesel engined alternators, manufactured by Messrs. A/S Bergen Mek. Verksted, Bergen. Type RSGB. 5 — 4 cycle single acting. Each engine 625 B.H.P. at 600 R.P.M. Each alternator 410 K.W.
BOILER:	One combined exhaust gas/oil fired donkey boiler, working at 100 p.s.i.
F WATER GENERATOR:	Atlas, capacity 36 tons/24 hours.
C.O.2. FLOODING:	Co. 2 System installed in E.R. and No. 6 hold.