SSM

GOVAN 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

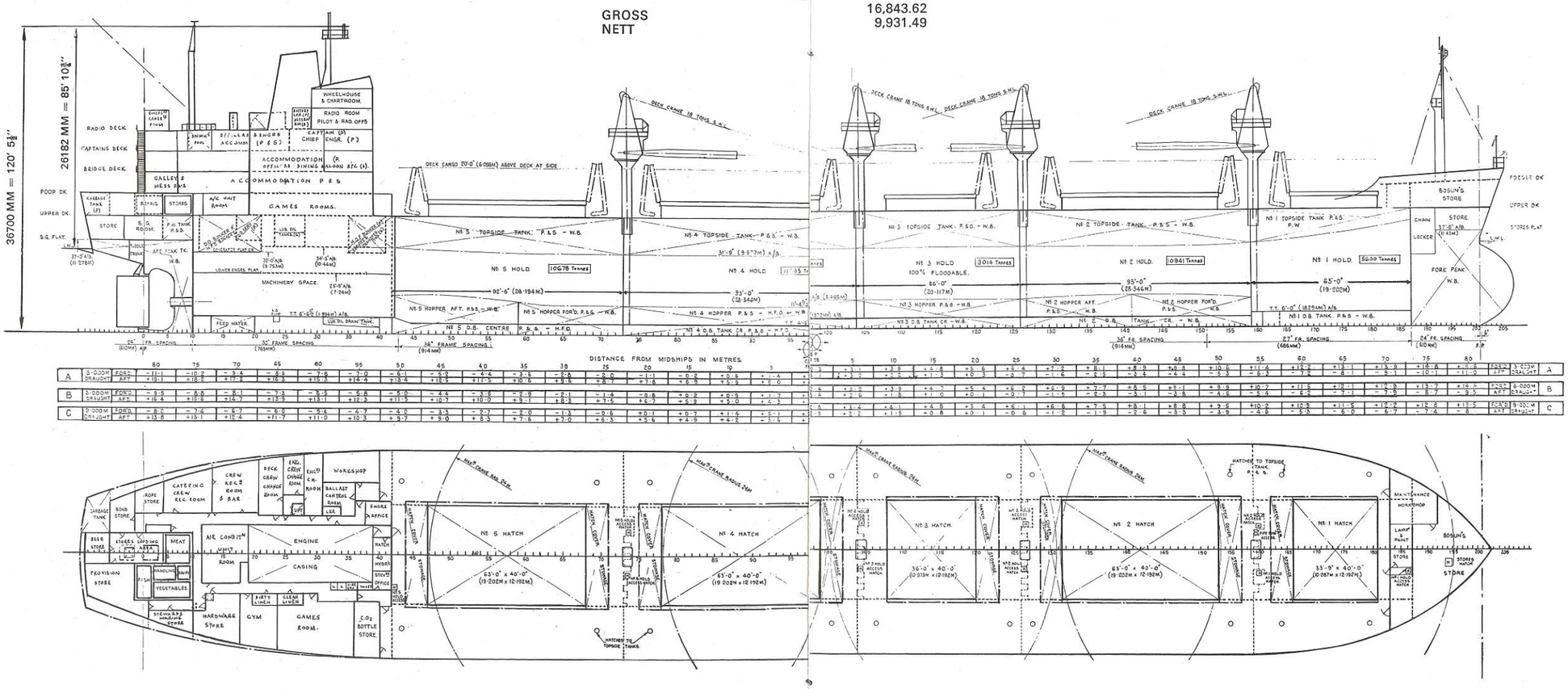
CAPE ORTEGAL • CAPE RODNEY • BARON NAPIER • BARON PENTLAND

DIMENSIONS:

LENGTH OVERALL	175.1	METRES
LENGTH BETWEEN PERPENDICULARS	163.0	,,
BREADTH MOULDED	25.45	,,
DEPTH MOULDED TO UPPER DECK	14.0	,,
DRAUGHT ON SUMMER FREEBOARD	10.144	,,
CORRESPONDING DEADWEIGHT	26,814	TONNES
T.P.C.	37.07	TONNES PER CM.
TIMBER LOAD LINE DEADWEIGHT	28,210	TONNES
SUMMER ON	10.518	METRES

TONNAGE:

GROSS	16,843.62
NETT	9,931.49

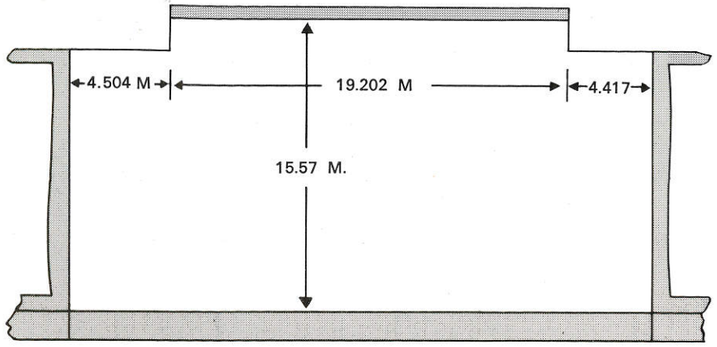


FREEBOARD.		DRAUGHT.	DEADWEIGHT (TONNES)	
MARK.	METRES.	METRES.	F.W.	S.W.
TF	3.482	10.581	27589	
F	3.693	10.370	26817	
T	3.708	10.355		27599
S	3.919	10.144		26814
W	4.130	9.933		26033
LTF	3.094	10.969	29023	
LF	3.313	10.750	28212	
LT	3.326	10.737		29036
LS	3.545	10.518		28210
LW	3.837	10.226		27118
LWNA	4.130	9.933		26033

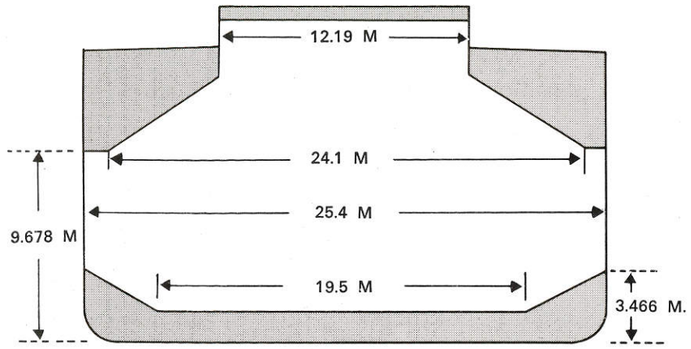
NOTE: THE MAXIMUM LOAD AS DENOTED IN [ ] IS THE MAXIMUM ALLOWABLE WEIGHT OF CARGO WHICH CAN DE STOWED IN EACH HOLD

BUILDERS:	Govan Shipbuilders Glasgow.
TYPE:	Single screw single deck self-geared bulkcarrier with special facilities for deck cargoes.
CLASS:	Lloyd's + 100 A1 — UMS
MACHINERY:	One Harland and Wolfe Burmeister and Wain direct reversible, single acting, crosshead type, pressure charged, intercooled two stroke direct injection oil engine type 6K74EF. M.C.R. 11,600 B.H.P. at 124 R.P.M.
CONSUMPTION:	34 tonnes per day + 2 tonnes diesel oil.
SPEED:	15 Kts.
CARGO GEAR:	4 Brattvaag 18 ton level luffing cranes with grabbing facility.

HOLDS



C/L SECTION NO. 2 HOLD



CARGO							
Compartment.	Frames.	Bulk Cargo Capacities.		Centres of Gravity		Packaged Cargo Capacities.	
				Vertical Above Base.	Long'l. From A.P.	To Inside of Main Frames, Underside of Topside Tank Pltg. & Deck Transverses.	
		Cubic Feet.	Cubic Metres.	Metres.		Cubic Feet.	Cubic Metres
NO. 1 HOLD	159–187	143,222	4055.6	8.19	144.38	123,584	3499.5 *
NO. 2 HOLD	126–159	283,676	8032.8	7.63	121.58	268,872	7613.6
NO. 3 HOLD	104–126	204,790	5799.0	7.50	97.51	190,622	5397.8
NO. 4 HOLD	73–104	292,847	8292.5	7.56	73.23	278,541	7887.4
NO. 5 HOLD	42– 73	276,895	7840.8	7.75	45.22	267,311	7569.4
TOTAL		1,201,430	34020.7			1,128,930	31967.7

* No. 1 Hold Packaged Cargo Capacity has been Measured to The Inside of *Web* Frames.

TANK TOP AREAS	
HOLD	SQ. M.
HOLD NO. 1	240
HOLD NO. 2	485
HOLD NO. 3	375
HOLD NO. 4	540
HOLD NO. 5	420

TANKS

OIL FUEL.										
Compartment.		Location (Frs.)	Capacities. 100% Full Cubic Metres.	Capacities. 98% Full Cubic Metres.	Capacities. 98% Full Tonnes at S.G.=0.95	Centres of Gravity (100%) (Metres) Vertical Above Base	Centres of Gravity (100%) (Metres) Long'l From A.P.	Change in Draught Due to Filling Tanks (See Note 5) (Metres.) Aft	Change in Draught Due to Filling Tanks (See Note 5) (Metres.) For'd.	Free Surface Momt at S.G.=0.95 (Tonnes. Metres.)
No. 4 D.B. Tank.	Port	74–104	179.8	176.2	167.4	0.69	73.30	+0.08	+0.02	252.0
No. 4 D.B. Tank	Starb	73–104	185.8	182.1	173.0	0.69	72.84	+0.08	+0.02	259.8
* No. 4 D.B./Hopper Tank.	P. & S.	73–104	588.0	576.2	547.4	1.11	73.08	+0.26	−0.06	945.6
No. 5 D.B. Tank	P. & S.	42– 73	308.6	302.4	287.3	0.71	45.70	+0.26	−0.09	345.4
H.F.O. Bunker	Port	35– 42	150.2	147.2	139.8	12.32	27.84	+0.17	−0.08	233.0
H.F.O. Bunker	Starb	11– 21	157.8	154.6	146.9	12.25	10.92	+0.22	−0.12	170.9
H.F.O. Service Inb'd	Starb	35– 41	49.7	48.7	46.3	11.96	27.43	+0.05	−0.04	5.8
H.F.O. Service Outb'd.	Starb	35– 41	49.2	48.2	45.8	11.94	27.43	+0.05	−0.03	5.8
H.F.O. Transfer Tank	Starb	35– 41	51.0	50.0	47.5	12.10	27.51	+0.06	−0.03	13.1
O.F. Drain Tank. D.B.	Starb	31– 41	19.8	19.4	18.4	1.40	26.46	+0.03	0	15.7
Sludge Tank D.B.	Port	31– 40	28.7	28.1	25.4	1.22	25.98	+0.03	−0.02	20.8
TOTAL OIL FUEL.					1645.2					

DIESEL OIL.										
Compartment.		Location (Frs.)	Capacities. 100% Full Cubic Metres.	Capacities. 98% Full Cubic Metres.	Capacities. 98% Full Tonnes at S.G.=0.86	Centres of Gravity (100%) (Metres) Vertical Above Base	Centres of Gravity (100%) (Metres) Long'l From A.P.	Change in Draught Due to Filling Tanks (See Note 5) (Metres.) Aft	Change in Draught Due to Filling Tanks (See Note 5) (Metres.) For'd.	Free Surface Momt at S.G.=0.86 (Tonnes. Metres.)
D.O. Bunker.	Port	11– 21	123.4	121.0	104.0	12.11	10.36	+0.16	−0.18	120.1
D.O. Service.	Port	17– 21	34.3	33.7	29.0	12.71	12.96	+0.04	−0.02	7.0
TOTAL DIESEL OIL					133.0					

LUB OIL.										
Compartment.		Location (Frs.)	Capacities. 100% Full Cubic Metres.	Capacities. 98% Full Cubic Metres.	Capacities. 98% Full Tonnes at S.G.=0.90	Centres of Gravity (100%) (Metres) Vertical Above Base	Centres of Gravity (100%) (Metres) Long'l From A.P.	Change in Draught Due to Filling Tanks (See Note 5) (Metres) Aft	Change in Draught Due to Filling Tanks (See Note 5) (Metres) For'd.	Free Surface Momt at S.G.=0.90 (Tonnes. Metres.)
Lub. Oil Drain Tank — D.B. CR.		31 –40	24.0	23.4	21.2	1.45	25.26	+0.03	−0.01	14.5
Lub. Oil Renovg. Tank — Flat Starb.		23 –28	24.6	24.1	21.7	12.65	18.02	+0.04	−0.01	9.4
M.E. Lub Oil Storage — Flat Starb.		23 –28	29.4	28.8	26.0	12.24	17.87	+0.03	−0.03	2.6
Diesel Alt. L.O. Storage — Flat Starb.		23 –28	12.2	11.9	10.7	12.22	17.84	+0.01	−0.01	0.2
Cyl. Oil Storage Tank — Flat Starb.		23 –25½	11.6	11.4	10.2	12.31	16.95	+0.01	−0.01	0.7
Cyl. Oil Storage Tank — Flat Starb.		25½–28	11.6	11.4	10.2	12.31	18.86	+0.01	−0.01	0.7
TOTAL LUB. OIL					100.0					

FRESH WATER.								
Compartment.		Location (Frs.)	Capacities. Cubic Metres.	Capacities. Tonnes at S.G.=1.00	Centres of Gravity (100%) (Metres) Vertical Above Base	Centres of Gravity (100%) (Metres) Long'l From A.P.	Change in Draught Due to Filling Tanks (See Note 5) (Metres) Aft	Change in Draught Due to Filling Tanks (See Note 5) (Metres) For'd.	Free Surface Momt at S.G.=1.00 (Tonnes Metres.)
Fresh Water Tanks.	P. & S.	4– 10	156.8	156.8	12.8	4.31	+0.20	−0.20	482.4
Feed Water Tank. D.B.		13– 20	21.1	21.1	1.2	11.39	+0.03	−0.02	15.9
No. 1 Topside Tank.	P. & S.	159–187	433.8	433.8	12.86	142.97	−0.29	+0.51	579.5
TOTAL FRESH WATER.				611.7					

WATER BALLAST.									
Compartment.		Location (Frs.)	Capacities. Cubic Metres.	Capacities. Tonnes at S.G.=1.025	Centres of Gravity (100%) (Metres) Vertical Above Base	Centres of Gravity (100%) (Metres) Long'l From A.P.	Change in Draught Due to Filling Tanks (See Note 5) (Metres) Aft	Change in Draught Due to Filling Tanks (See Note 5) (Metres) For'd.	Free Surface Momt at S.G.=1.025 (Tonnes Metres.)
Fore Peak Tank.		187–Stem	459.4	471	5.83	158.80	−0.42	+0.65	334.0
No. 1 Double Bottom.	Port	159–187	190.3	195	0.99	143.93	−0.13	+0.23	836.0
No. 1 Double Bottom.	Starb.	159–187	194.7	200	0.99	143.78	−0.13	+0.24	847.0
No. 2 Double Bottom.	CR.	126–159	365.7	375	0.69	121.53	−0.11	+0.32	2208.8
No. 2 D.B./Hopper Tank For'd.	P. & S.	141–159	270.0	277	1.31	127.53	−0.11	+0.26	308.8
No. 2 D.B./Hopper Tank AFT.	P. & S.	126–141	295.8	303	1.19	114.03	−0.06	+0.22	472.4
No. 3 Double Bottom.	CR.	104–126	257.8	264	0.69	97.30	+0.03	+0.13	1557.5
No. 3 D.B./Hopper Tank.	P. & S.	104–126	425.8	436	1.10	97.09	+0.04	+0.21	777.6
* No. 4 D.B./Hopper Tank	P. & S.	73–104	588.0	603	1.11	73.08	+0.26	−0.06	1020.3
No. 5 D.B./Hopper Tank FWD.	P. & S.	59– 73	216.8	222	1.20	52.60	+0.18	−0.04	283.6
No. 5 D.B./Hopper Tank AFT	P. & S.	42– 59	227.0	232	1.73	38.82	+0.27	−0.09	204.6
AFT Peak Tank.		Stern– 10	231.9	238	9.73	1.99	+0.39	−0.23	1337.3
No. 2 Topside Tank.	P. & S.	126–159	1038.9	1065	12.49	121.18	−0.31	+0.90	1387.2
No. 3 Topside Tank.	P. & S.	104–126	746.4	765	12.47	97.07	+0.06	+0.36	995.4
No. 4 Topside Tank.	P. & S.	73–104	1051.8	1078	12.47	72.84	+0.52	+0.13	1402.4
No. 5 Topside Tank.	P. & S.	42– 73	1016.6	1042	12.52	44.84	+0.99	−0.31	1381.2
No. 3 Hold/Deep Tank.		104–126	5802.0	5947	7.50	97.51	+0.53	+2.88	28329.2
TOTAL WATER BALLAST.			13378.9	13713					

* No. 4 D.B./Hoppers are Oil Fuel or Water Ballast Tanks.

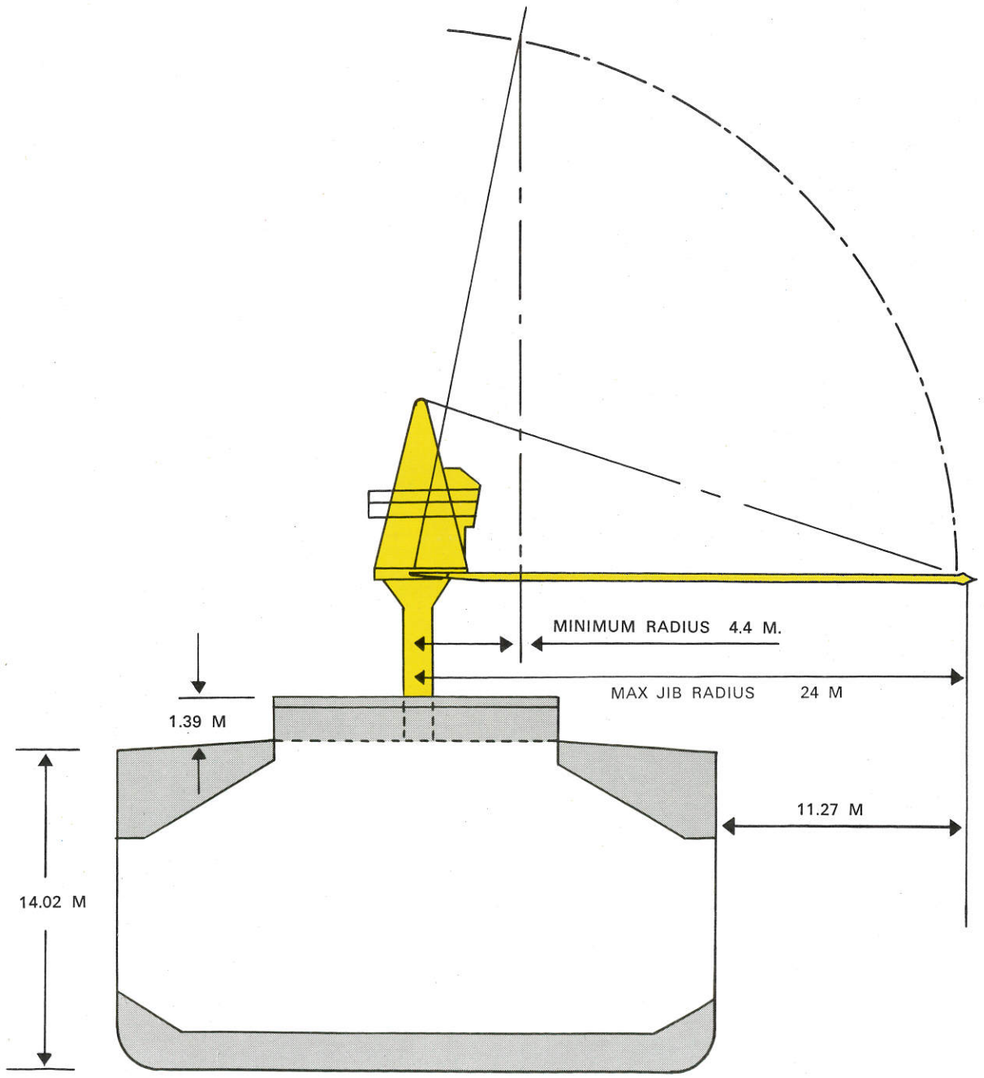
NOTES:—
(1) To Obtain weight of the Liquid contents of any Compartment for any S.G., Multiply Table Capacity in Cubic Metres by the Actual specific Gravity of the Liquid.
(2) For all tanks Marked P. & S., The Results given are total for both tanks.
(3) See "Trim & Stability Booklet" for the use of free surface moments.
(4) The water ballast tanks are Normally either empty or 100% full, so that free surface corrections will Normally apply only when Filling or Discharging
(5) Changes in draughts due to filling tanks have been calculated for condition with mean draught of 6.0 metres.

CARGO GEAR

Govan class vessels are fitted with four Bratvaag Level Luffing Deck Cranes, each of which has a continuous rating of 18 tons, using either hook or grab.

As the diagram shows these units have a radius of between 4.4M and 24M which maximum radius gives an outreach from the ship's side of 11.27M making possible discharge directly into trucks or lorries yet maintaining direct line of sight between driver and grab, even at light draughts.

HOISTING SPEED	30 METRES/MIN.
SLEWING SPEED	1.25 R.P.M.
LUFFING TIME FROM	30° TO MIN RAD 42 SEC.



BULKHANDLING

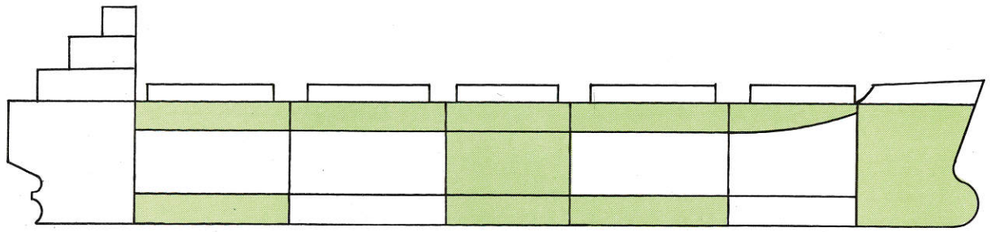
Govan class vessels are fully equipped for complete self loading and discharge and carry four Peiner Electro-Hydraulic Motorgrabs type MZG 5000-3B. Each of these grabs has a capacity of 5.0 cubic metres and suit cargoes of any density between those of, say, barley and iron ore.

This type of grab has been successfully used on Govan class vessels for the discharge of a large range of cargoes. In order to cope with the varying demands arising during a grab discharge it is possible to swing the grab through 90° in order that it may be mounted in either the fore and aft or the athwartships line.

Rapid interchange between grab and hook means that the time lost while shifting bulldozers or trimming equipment is kept to the very minimum, and the time taken to bring the gear into action after arrival, and to secure it for sea, is similarly cut.

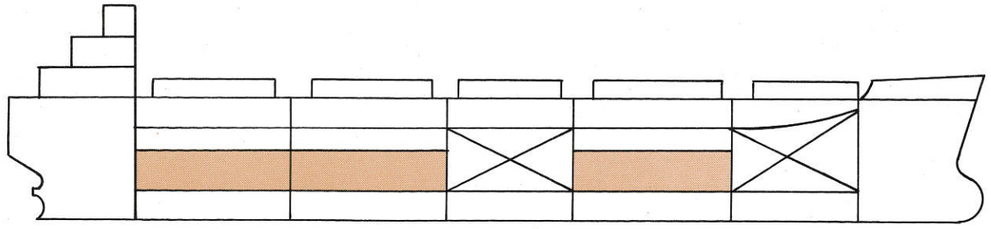
STOWAGE...

ballast



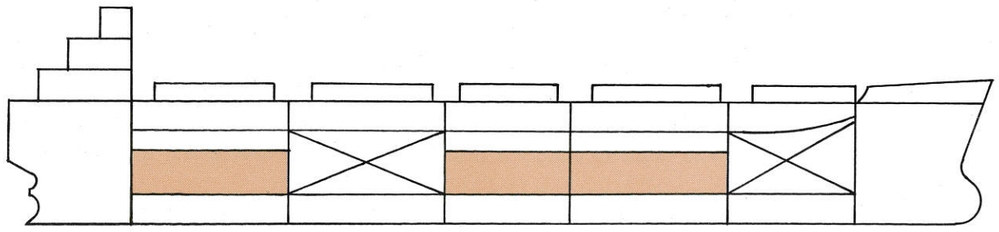
DRAUGHT 6.61 M.

ore 16 cuft/ton



CARGO 25695
DRAFT 9.93 M E.K.

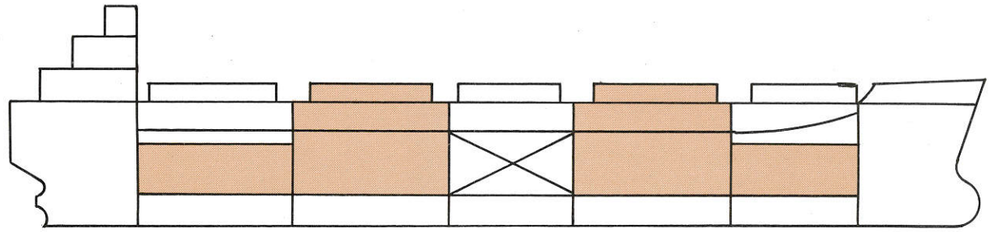
ore 16 cuft/ton



CARGO 25695
DRAFT 9.93 M E.K.

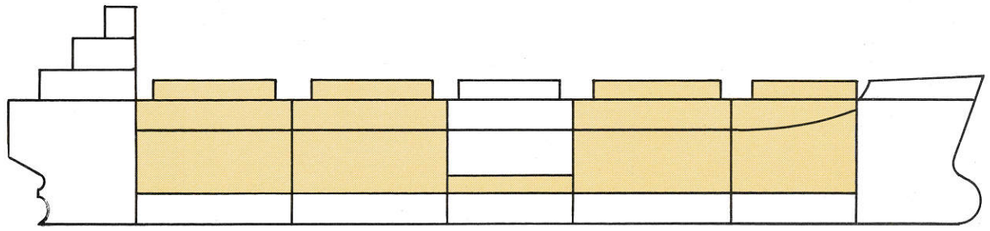
WITH FLEXIBILITY

sulphur 35·8 cuft/ton



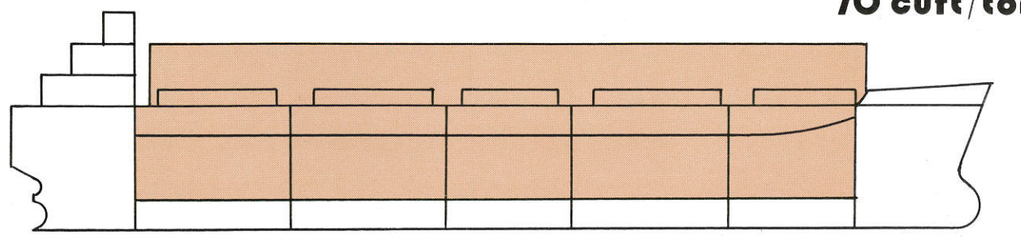
CARGO 25695
DRAFT. 9.93 M.

grain 40 cuft/ton



CARGO 25695
DRAFT. 9.93 M MAX

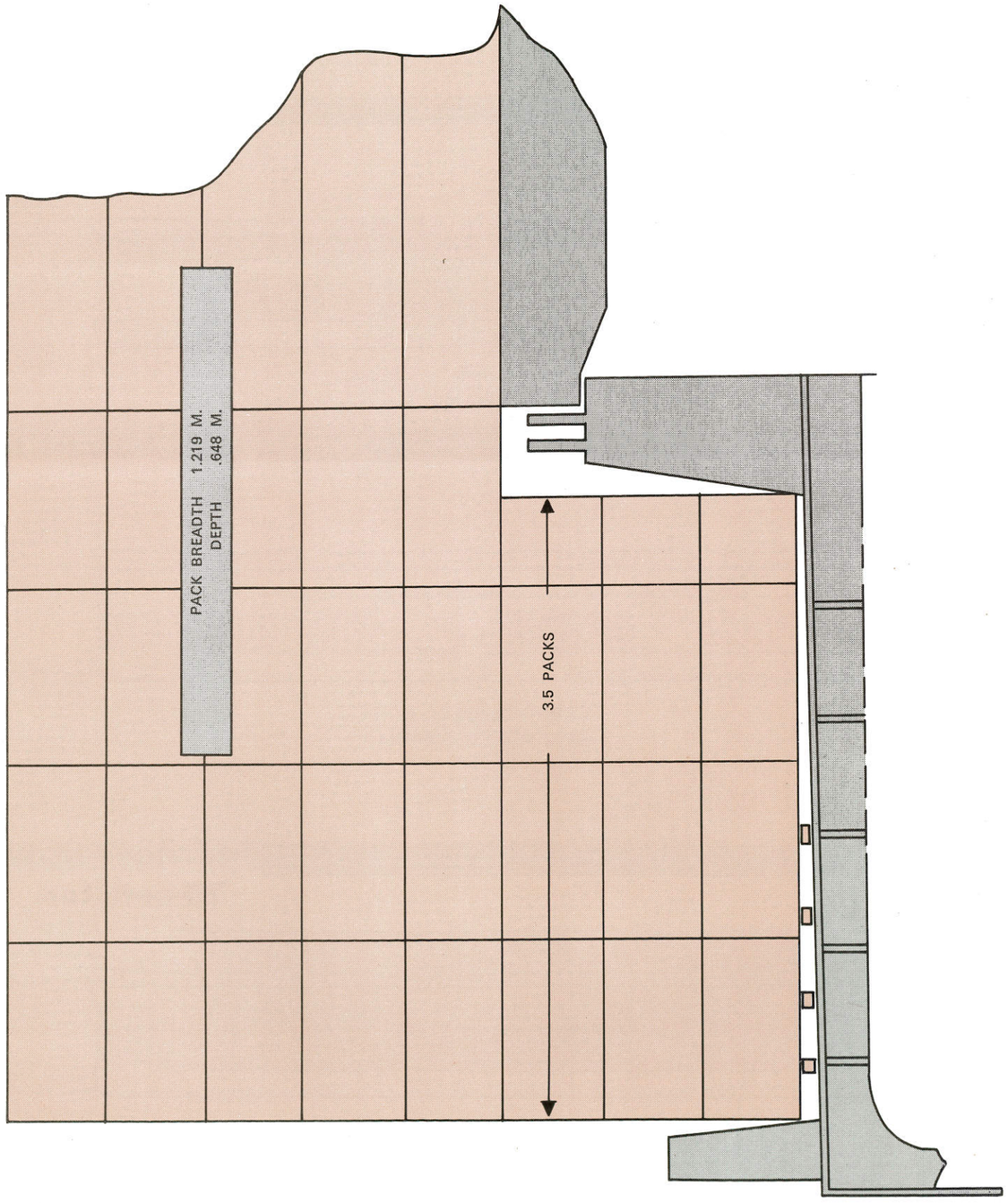
packaged timber 70 cuft/ton



CARGO 23561
DRAUGHT 11.07 M MAX

DECK CARGO HEIGHT 20FT/VSL. ON TIMBER MARKS.

PACKAGED LUMBER



DEADWEIGHT

light ship 6603 constant 150

DEADWEIGHT SCALE.

FREE-BOARD IN METRES	SALT WATER: TONNES PER CM.	SALT WATER: MOMT TO CHANGE TRIM 1 CM. TONNES M	SALT WATER: DISPLT. IN TONNES.	SALT WATER: DEADWT. IN TONNES.	DRAUGHT IN METRES.	FRESH WATER: DEADWT. IN TONNES.	FRESH WATER: DISPLT. IN TONNES.	FRESH WATER: TONNES PER CM.
4	37	430	36000	29000	10	28000	35000	36
		420	35000	28000		27000	34000	
		410	34000	27000		26000	33000	
		400	33000	26000		25000	32000	
		390	32000	25000		24000	31000	
		380	31000	24000		23000	30000	
5	36	370	30000	23000	9	22000	29000	35
		360	29000	22000		21000	28000	
			28000	21000		20000	27000	
		350	27000	20000		19000	26000	
6	35		26000	19000	8	18000	25000	
		340	25000	18000		17000	24000	34
			24000	17000		16000	23000	
7		330	23000	16000	7	15000	22000	
			22000	15000		14000	21000	
			21000	14000		13000	20000	
8	34	320	20000	13000	6	12000	19000	
			19000	12000		11000	18000	
			18000	11000		10000	17000	33
9		310	17000	10000	5	9000	16000	
			16000	9000		8000	15000	
			15000	8000		7000	14000	
			14000	7000		6000	13000	
10		300	13000	6000	4	5000	12000	
	33		12000	5000		4000	11000	
		290	11000	4000		3000	10000	32
			10000	3000		2000	9000	
11		280	9000	2000	3	1000	8000	
	32		8000	1000		0	7000	31
		270	7000	0			6000	
12		260	6000		2			

EQUIPMENT

NAUTICAL EQUIPMENT:

Gyro-Compass — Gyro-Pilot:
S. G. Brown

Satellite Navigator
MX 1102 A (Magnavox)

Echo-Sounding Apparatus:
Simrad, type EN

Radar:
Decca 12" RM with auto-plot.
Decca 9" RM

Radio Direction Finder:
1MR. ADF 2200

Wireless Station:
International Marine Radio Co. Limited,
Wireless station, type ST 1600 CAP 1600W VHF equipment type STR24

STEERING GEAR:

Four Ram electro hydraulic steering gear
Makers: John Hastie & Co. Limited

DIESEL ALTERNATORS:

3-G.E.C.-Ruston Paxman 6AP2Z auxiliary diesel engines developing 755 B.H.P. C.S.R. at 720 r.p.m. each coupled to a Siemens constant voltage synchronous, drip proof, self ventilated alternator, each having an output of 630kw. 440 volts 3 phase 60 cycles.

REMOTE CONTROL AND INSTRUMENTS:

The ship is built to comply with the requirements of Class "U.M.S." of Lloyds Register of Shipping for periodically unmanned engine room.

FRESH WATER GENERATOR:

Atlas 30 tons/day

HATCH COVERS:

Hydraulically operated steel covers