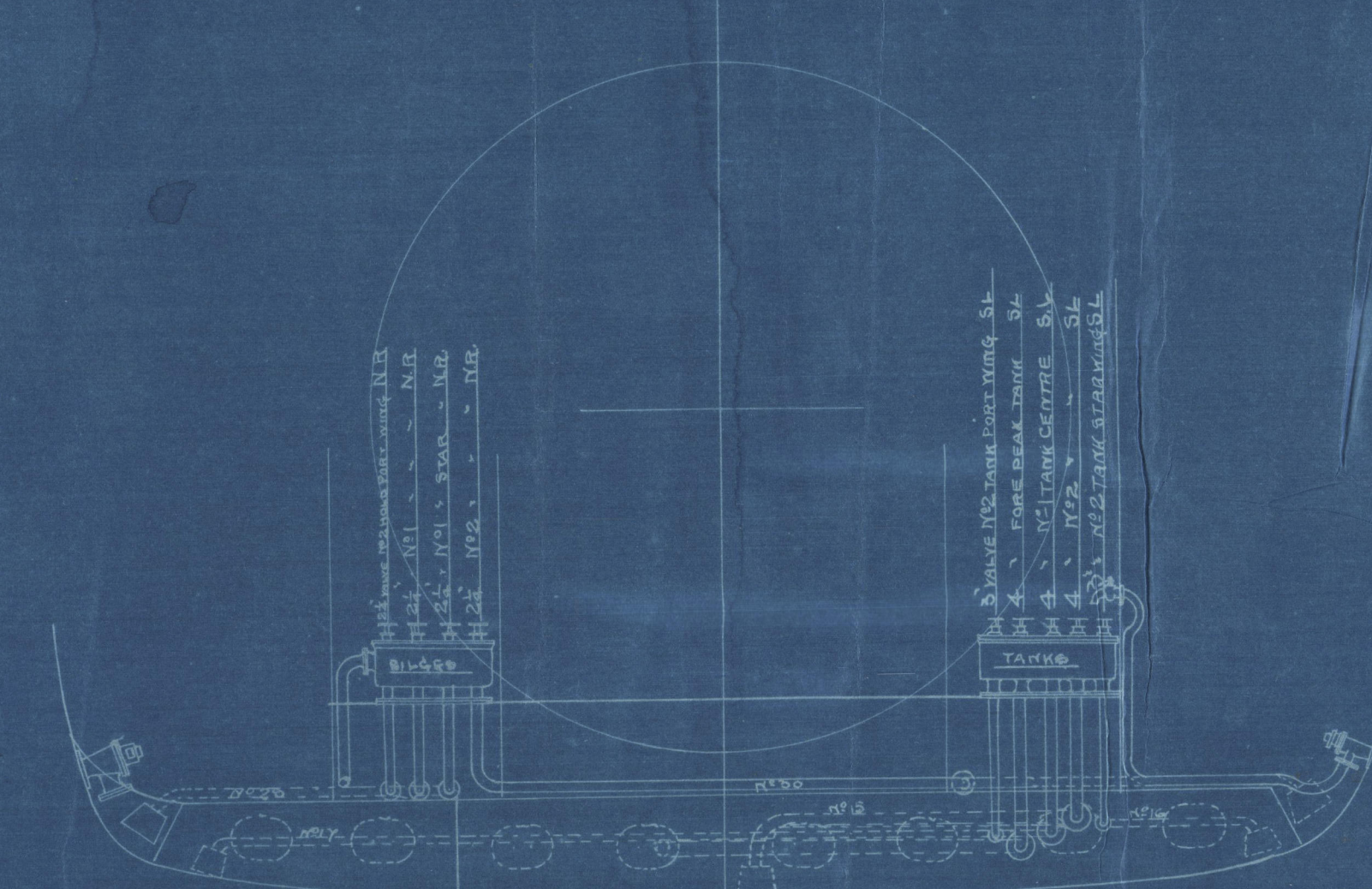
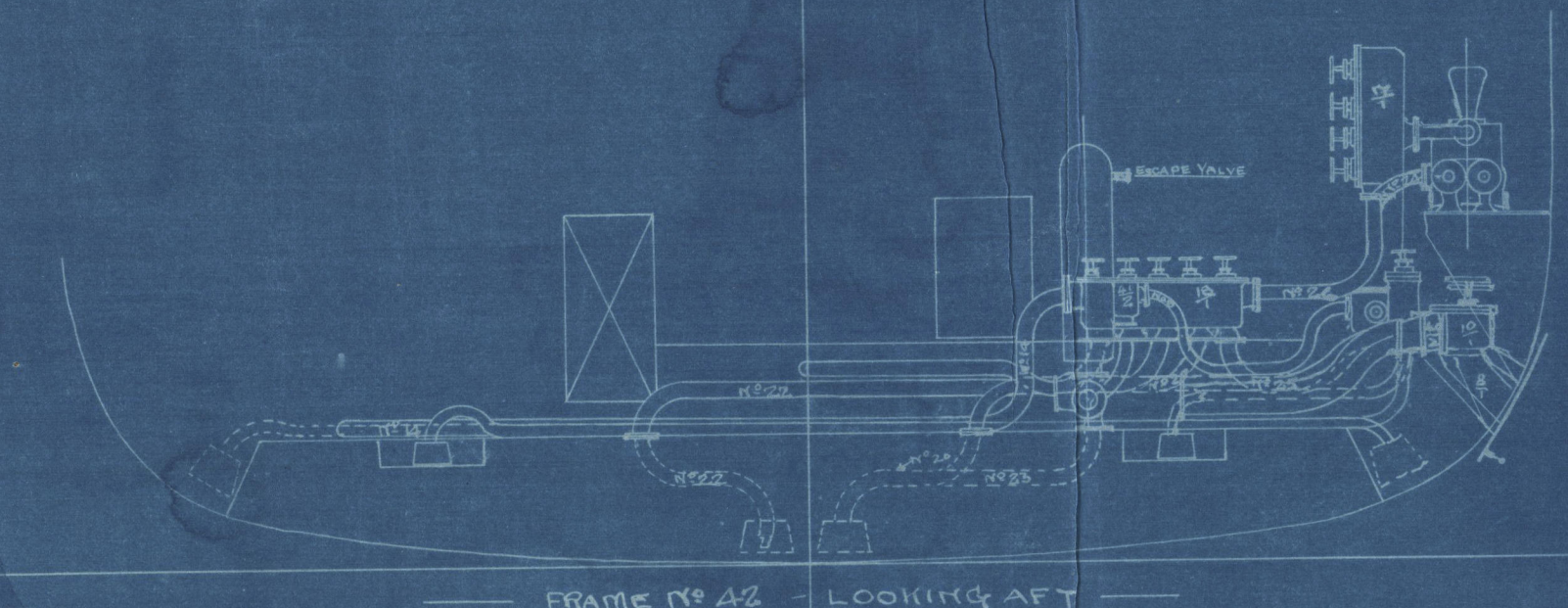
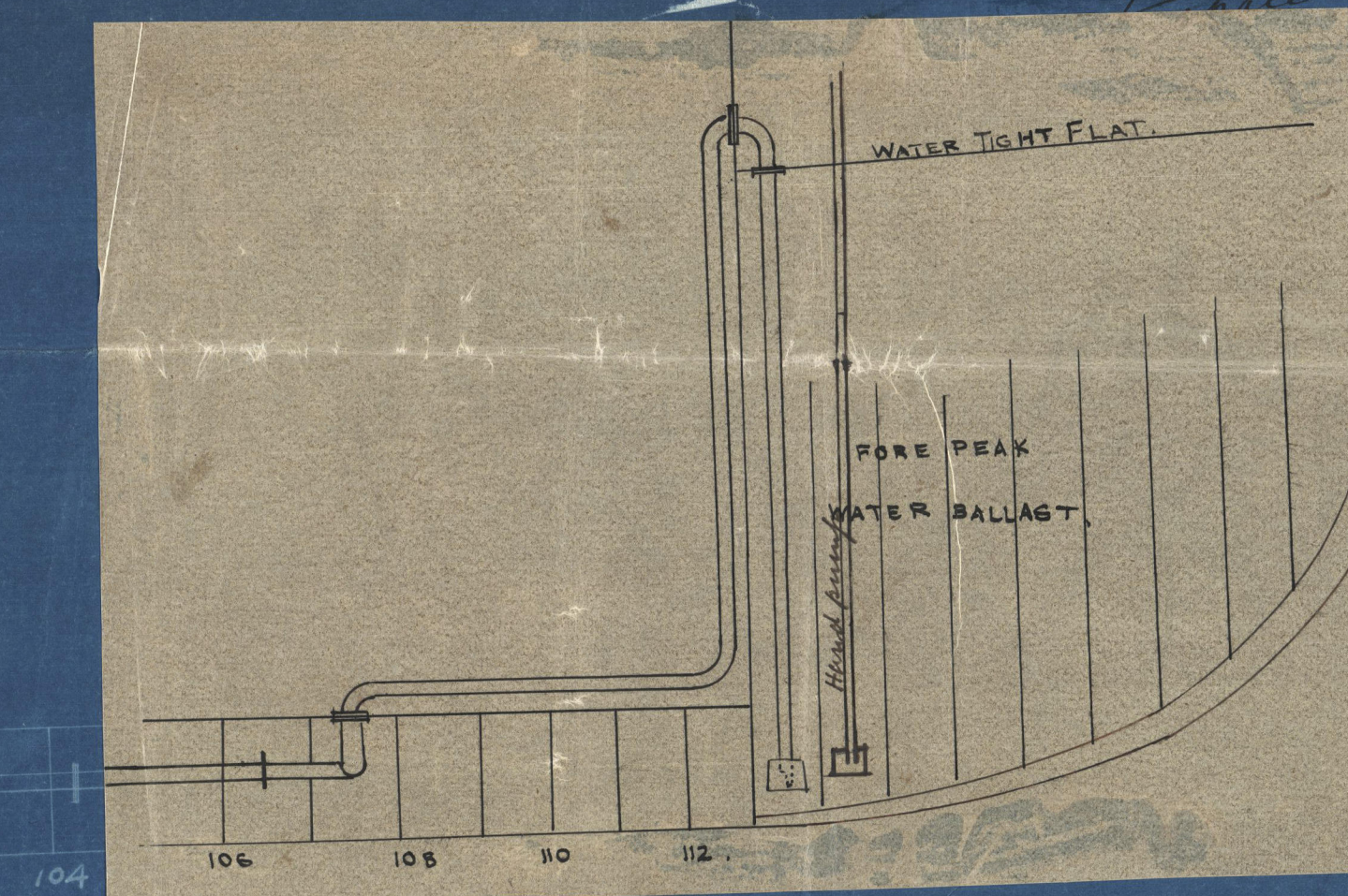


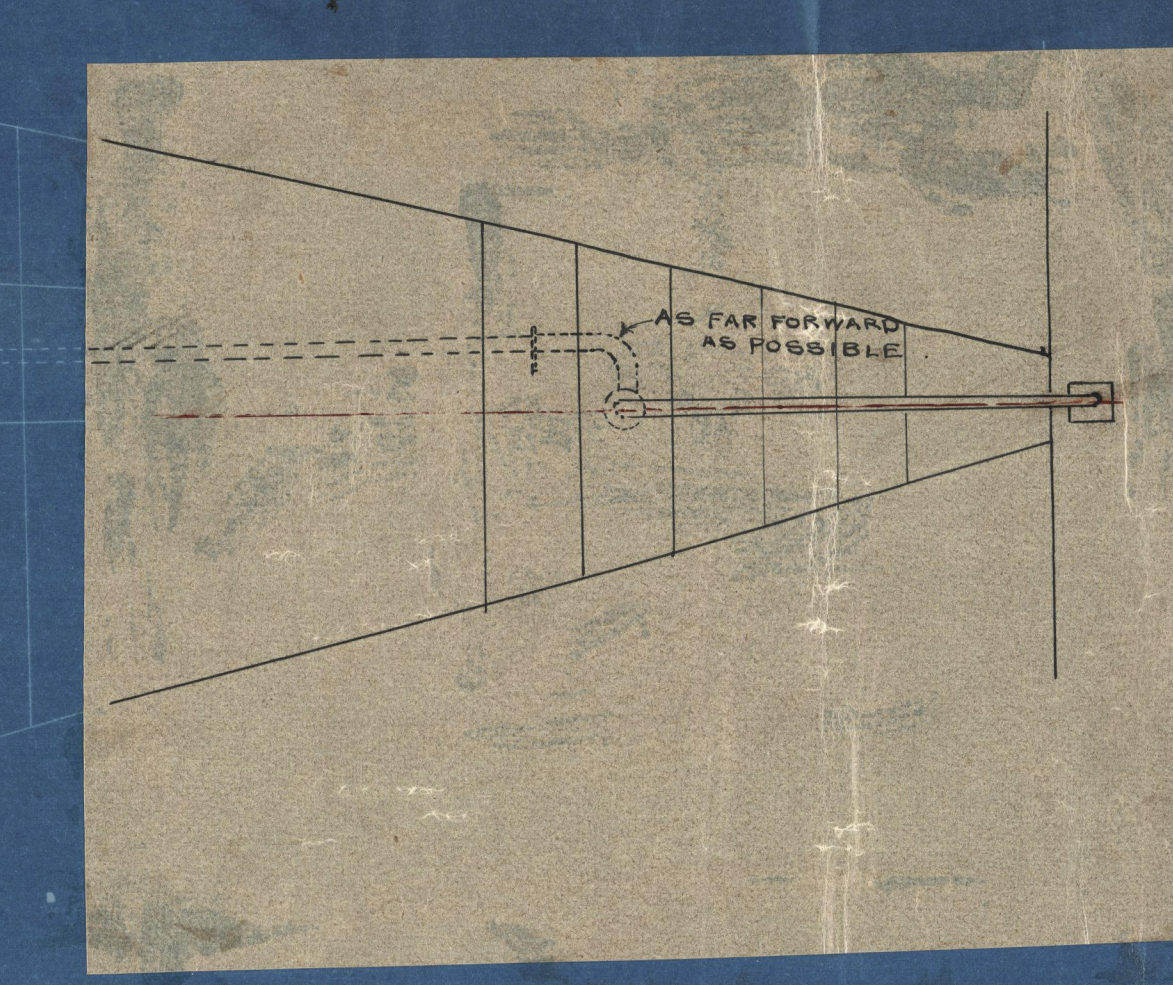
Rev. 24. 5. 95



NO	DESCRIPTION	BORE	THICK	MATERIAL	NO	DESCRIPTION	BORE	THICK	MATERIAL
1	MAIN INJECTION	8"	3/4"	COPPER	24	BALLAST PUMP SUCTION	4"	3/4"	LEAD
2	GRINDING DISC CONDENSER	7"	1/2"	LEAD	25	RUNNING UP TANK	4"	3/4"	"
3	BILGE INJECTION	5 1/2"	1/2"	LEAD	26	BALLAST PUMP FORGING	4"	3/4"	"
4	WATER PUMP SUCTION BOX	2 1/2"	1/2"	COPPER	27	WATER PUMP PORT	2 1/2"	3/4"	CAST IRON
5	" " " " " "	2 1/2"	1/2"	"	28	" " " " " "	2 1/2"	3/4"	"
6	" " " " " "	3"	1/2"	LEAD	29	" " " " " "	2 1/2"	3/4"	LEAD
7	BALLAST PUMP SUCTION BILGE	3"	1/2"	"	30	" " " " " "	2 1/2"	3/4"	"
8	WATER PUMP SUCTION	3 1/2"	1/2"	"	31	WATER COOLING PIPE	1 1/2"	3/4"	"
9	" " " " " "	3 1/2"	1/2"	COPPER	32	ENGINE ROOM PORT WING BILGE	2 1/2"	3/4"	"
10	" " " " " "	3 1/2"	1/2"	LEAD	33	" " " " " "	2 1/2"	3/4"	"
11	" " " " " "	2 1/2"	1/2"	"	34	PORT P. DUC FROM WELLS	1 1/2"	3/4"	"
12	" " " " " "	2 1/2"	1/2"	"	35	STAR P. " " " "	1 1/2"	3/4"	"
13	WATER SPECIAL BILGE	3 1/2"	1/2"	"	36	W. HOLD PORT BILGE BUC	2 1/2"	3/4"	"
14	BALLAST DUCT FOR TANKS	4"	3/4"	CAST IRON	37	W. " " " " " "	2 1/2"	3/4"	"
15	" " " " " "	4"	3/4"	LEAD	38	TUNNEL WELL SUCTION	2 1/2"	3/4"	CAST IRON
16	" " " " " "	3"	1/2"	LEAD	39	BALLAST DUCT FOR BILGE	2 1/2"	3/4"	LEAD
17	" " " " " "	3"	1/2"	"	40	" " " " " "	2 1/2"	3/4"	"
18	" " " " " "	4"	3/4"	CAST IRON	41	" " " " " "	4"	3/4"	"
19	" " " " " "	4"	3/4"	"	42	" " " " " "	4"	3/4"	"
20	" " " " " "	4"	3/4"	"	43	" " " " " "	4"	3/4"	"
21	" " " " " "	4"	3/4"	"	44	" " " " " "	4"	3/4"	"
22	" " " " " "	4"	3/4"	LEAD	45	" " " " " "	4"	3/4"	"
23	" " " " " "	4"	3/4"	"	46	" " " " " "	4"	3/4"	"



Hand pumps not to have more than 24 ft lift



# BILGE AND WATER BALLAST PUMPING PLAN

## SHIP NO 163 ENGINE NO 331

SCALE 1" = ONE FOOT

13-5-25



Pumping plan

Goulding Bros & Co Ltd 163

of Sardinia

Dundee Report No 115

DUN123-0334



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