

Table 2
Screening Analysis - Summary of Costs

Baseline Tanker Model	MEASURE	New Total Cargo Oil	Cargo Oil Shut-Out		One-time refit (ROM) Costs (M\$)	Opportunity Costs Per Year	
		(Bbls) (cu.m.)	(Bbls) (cu.m.)	% Initial		Inter-national	U.S. Coastal
70,000 dwt Pre-MARPOL	1.a. PL/Spaces, 30% coverage	523,444 83,221	7,072 1,124	1.3%	1.9	\$6,402,000	\$9,918,000
70,000 DWT Pre-MARPOL	1.b. PL/ST, 30% coverage, with ballast to max. feasible draft	470,283 74,769	60,233 9,576	11.4%	0.5	\$6,402,000	\$9,918,000
70,000 dwt Pre-MARPOL	1.c. PL/CBT, 30% coverage, empty to extent feasible	470,283 74,769	60,233 9,576	11.4%	0.2	\$6,402,000	\$9,918,000
70,000 dwt MARPOL 73	2.a. HBL all tanks	389,854 61,982	153,655 24,429	28.3%	0	\$6,402,000	\$9,918,000
70,000 dwt MARPOL 73	2.b. HBL, equivalent to Regulation 13G	477,892 75,979	65,617 10,432	12.1%	0	\$6,402,000	\$9,918,000
70,000 dwt Pre-MARPOL	3. PL/Spaces as in 1.c. and HBL as in 2.b.	443,948 70,582	86,567 13,763	16.3%	0.2	\$6,402,000	\$9,918,000
70,000 dwt MARPOL 73	4. Retrofit double bottom	484,209 76,983	59,300 9,428	10.9%	9.7	\$6,402,000	\$9,918,000
70,000 dwt MARPOL 73	5. Retrofit double sides	502,573 79,903	502,573 79,903	7.5%	13.6	\$6,402,000	\$9,918,000
12,700 dwt Tank Barge	6. PL/Spaces (install bulkheads)	237,072 37,691	12,844 2,042	5.1%	2.8	.	.
12,700 dwt Tank Barge	7. PL/Spaces using existing cargo tanks	207,712 33,204	42,203 6,710	16.9%	0.3	.	.
264,000 dwt Pre-MARPOL	1.a. PL/Spaces, 30% coverage	2,031,370 322,962	46,597 7,408	2.2%	12.4	\$11,279,000	\$12,143,000
264,000 dwt Pre-MARPOL	1.b. PL/ST, 30% coverage, with ballast to max. feasible draft	1,657,648 263,545	420,319 66,825	20.2%	1.8	\$11,279,000	\$12,143,000
264,000 dwt Pre-MARPOL	1.c. PL/CBT, 30% coverage, empty to extent feasible	1,657,648 263,545	932,159 148,201	20.2%	0.4	\$11,279,000	\$12,143,000
264,000 dwt MARPOL 73	2.a. HBL all tanks	1,134,047 180,299	570,481 90,699	45.1%	0	\$11,279,000	\$12,143,000
264,000 dwt MARPOL 73	2.b. HBL, equivalent to Regulation 13G	1,495,725 237,801	652,153 103,684	27.6%	0	\$11,279,000	\$12,143,000
264,000 dwt Pre-MARPOL	3. PL/Spaces as in 1.c. and HBL as in 2.b.	1,425,814 306,715	148,786 23,655	31.4%	0.4	\$11,279,000	\$12,143,000
264,000 dwt Pre-MARPOL	4. Retrofit double bottom	1,929,181 306,715	148,786 23,655	7.2%	26.6	\$11,279,000	\$12,143,000
264,000 dwt Pre-MARPOL	5. Retrofit double sides	1,921,087 305,428	156,880 24,942	7.5%	39.9	\$11,279,000	\$12,143,000
31,000 dwt Tank Barge	6. PL/Spaces (install bulkheads)	97,015 15,424	6,483 1,031	6.3%	1.4	.	.
31,000 dwt Tank Barge	7. PL/Spaces using existing cargo tanks	68,281 10,856	35,217 5,599	34%	0.2	.	.

*Opportunity costs were not calculated for tank barges. However, if the opportunity costs for tank vessels were extrapolated to apply to tank barges and required shipyard time is accounted for, tank barge opportunity costs would range from \$2,506,000 to \$5,859,000.