CONDITIONS OF LOADING M.V. TWOSUCH = LIGHTSHIP + ONE BARREL

DISTANCE x WEIGHT = MOMENT DISTANCE = MOMENT/DISPLACEMENT

(Information supplied courtesy Marine Safety, WA Department for Planning and Infrastructure. Extracts by Ranger Hope© 2008).

Item Loaded An example load	**Tonnes** The weight	**V.C.G.** Tanks & capacities	**Vert. Moment** Calculation of T x VCG	**L.C.G. +/-** Tanks & capacities	**Long. Moment** Calculation of T x LCG	**F.S.N.** Summary of spaces
One barrel of oil of 1 Tonne is loaded . Its CG is at 2 metres above the keel and 10 metres aft of the LCG. It is considered that as it is not a full barrel its virtual centre of gravity will be higher, calculated as a moment of 0.65 (Free Surface Numeral) Checking the curves of limiting KG and LCG quickly show us if the vessel is safely loaded.	1 Tonne	2Mtr	2Mtr/tonne	-10Mtr	-10Mtr/Tonne	0.65
Deadweight Total the Tonnes added	1		2		-10	
Lightship From Stability Book	148.46	3.479	516.61	-0.65	-96	-
Displacement Deadweight + Lightshp	149.46	3.469	518.61	-0.7	-106	0.65

New K.G.= New Vert. Moments / Displacement = 518.61 / 149.46 = 3.4699Mtr

F.S.N.= New FSN. Moments / Displacement = 0.65 / 149.46 = 0.004

Kgf = Corrected KG = 3.474Mtr

New L.C.G= New Long. Moments / Displacement = -106 / 149.46 = -0.7

Has the vessel SAFE or UNSAFE K.G.fluid AND L.C.G in this loading condition?
Show me the Curves of limiting KG & LCG.