

VICTOR F. B. DE MELLO.-

I realize that there has been some mention of the fear of the defects of desiccation on earth dams. We have had that problem somewhat in Northern Brazil where the climate is very arid. I want to take this opportunity to perhaps make an insignificant suggestion. I have never found any occasion to use in practice the so-called ^{shrinkage} contraction limit, the contraction limit being the water content of 100% saturated materials that you end up upon contraction in ^{the} ~~here~~. But instead of using the contraction limit you use contraction void ratio. We have found that you can discover that there are variations, rather remarkable variations of contraction void ratio, depending on placement water content. It is fairly easy then to select such a contraction void ratio of the corresponding point in the dam.

In other words, in the e-p curve, you can at any rate, try to stay with your compaction water content, you can try to stay with a contraction void ratio above the corresponding void ratio that this soil element would attain in the fill. It seems to us that by that means, if that is possible, I do not know, in the residual soils that we have worked with, we have found that quite possible because the variations of contraction void ratio with variations of placement water content from minus 2 to plus 2 are so remarkable that by a minor change, let us say go down to minus 2% water content you can stay up beyond the problem of contraction upon drying. That is merely a suggestion, among other things to introduce a concept of the contraction void ratio rather than contraction limit, which would be applicable to all soils, saturated or unsaturated, and in this specific case, could be used to avoid to some extent the problem of fissuring due to desiccation.